PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
RRV1633

FILE-TYPE CD PLAYER

PD-F79

• Refer to the service manual RRV1439 for PD-F805/KU.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PD-F79		
KUXJ/CA	O	AC120V	

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O.Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Lane Crawford Place, Singapore 0923

T-FFY MAY. 1996 Printed in Japan

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	*56 × 10¹ → 561*	*RD1/4PU561J*
47kΩ	→	*47 × 10³ → 473*	*RD1/4PU473J*
0.5Ω	→	*0R5*	*RN2H0R5K*
1Ω	→	*1R0*	*RS1P1R0K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	→	*562 × 10¹ → 5621*	*RN1/4PC5621F*

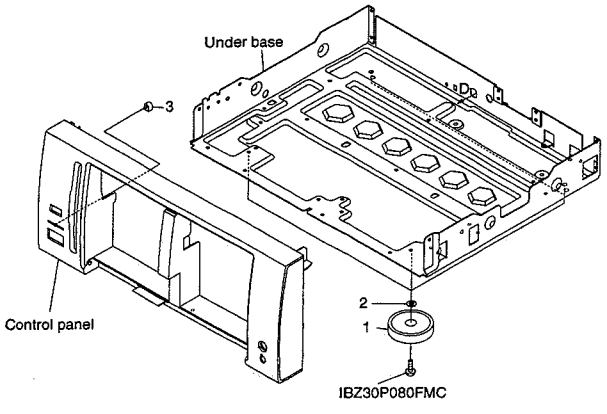
PD-F79/KUXJ/CA and PD-F805/KU have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PD-F805/KU	PD-F79/KUXJ/CA	
NSP	Mother PCB Assy	PWM2005	PWM2011	
NSP	Power SW PCB Assy	PWZ3161	PWZ3162	
	Power PCB Assy	PWZ3179	PWZ3185	
	Foot Assy	AEC1531	Not used	
	Rubber Sheet	AEB1111	Not used	
	Insulator	Not used	PNW1912	✻1 No.1
	Rear Base	PNA2245	PNA2306	
	Screw P	PBA1107	PBA1105	
	Spacer	Not used	PEC1034	✻1 No.2
	Rack Base	PNW2611	PNW2691	
	Link Spring	PBH1218	PBH1215	
	Control Panel	PNW2627	PNW2683	
	LED Lens	Not used	PNW2019	✻1 No.3
	Name Plate	PAM1704	VAM1032	
	Door Panel	PNW2621	PNW2684	
	Packing Case	PHG2189	PHG2212	
	Packing Sheet	Z23 – 020	AHG7010	
NSP	Battery (R6P, AA)	VEM – 013	AEX – 010	
	Jacket File	Not used	PHN1047	✻1 No.4
	Index Label 50	Not used	PRW1414	✻1 No.5
	Operating instructions (English)	PRB1238	PRB1245	

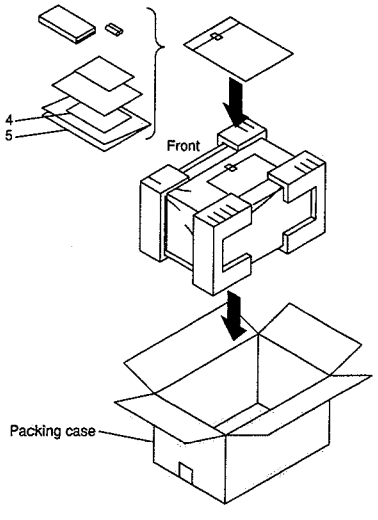
Note ✻1 : The numbers in the remarks column correspond to the numbers on the exploded views.

■ EXPLODED VIEWS

● Exterior

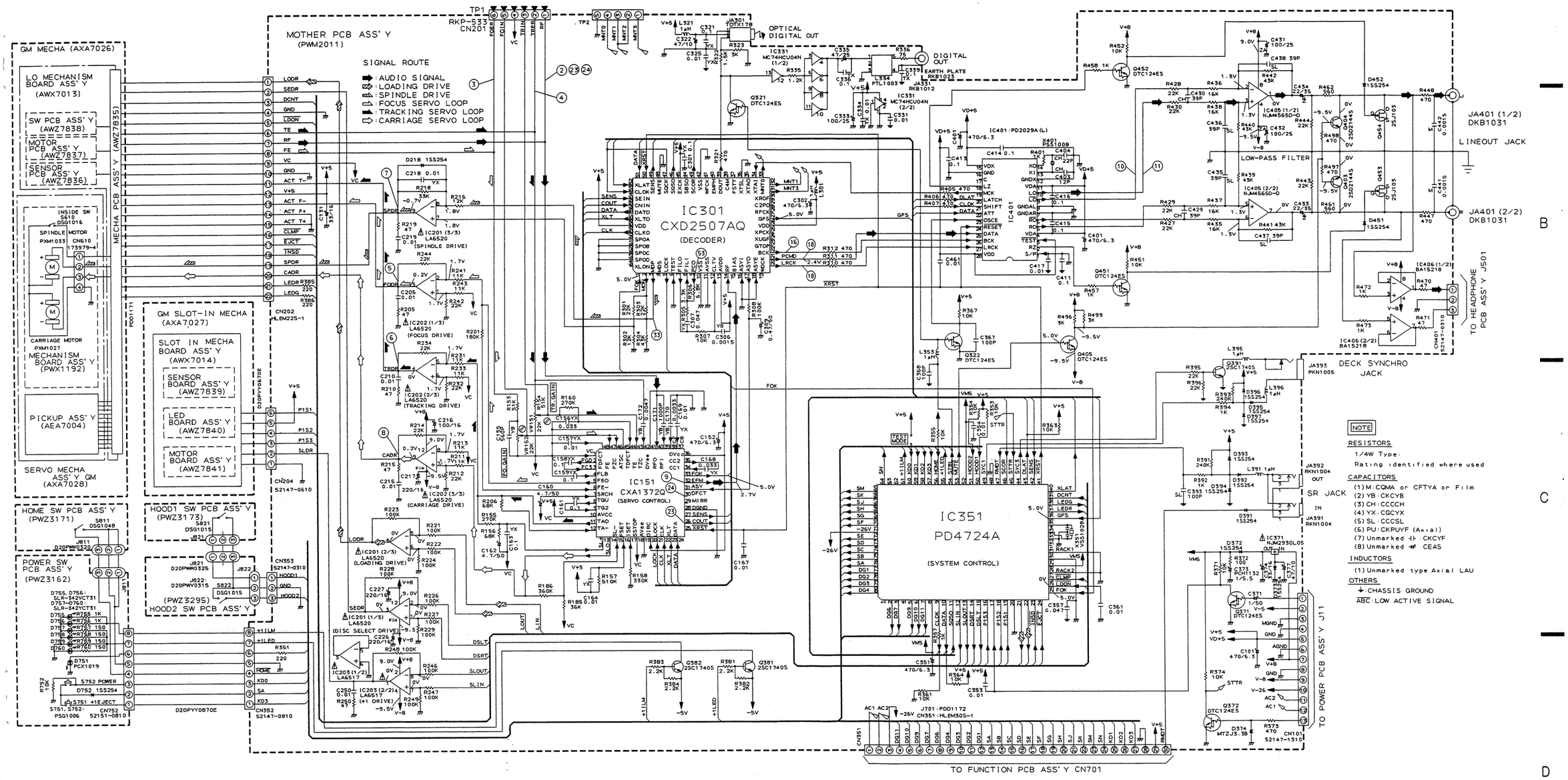


● Packing

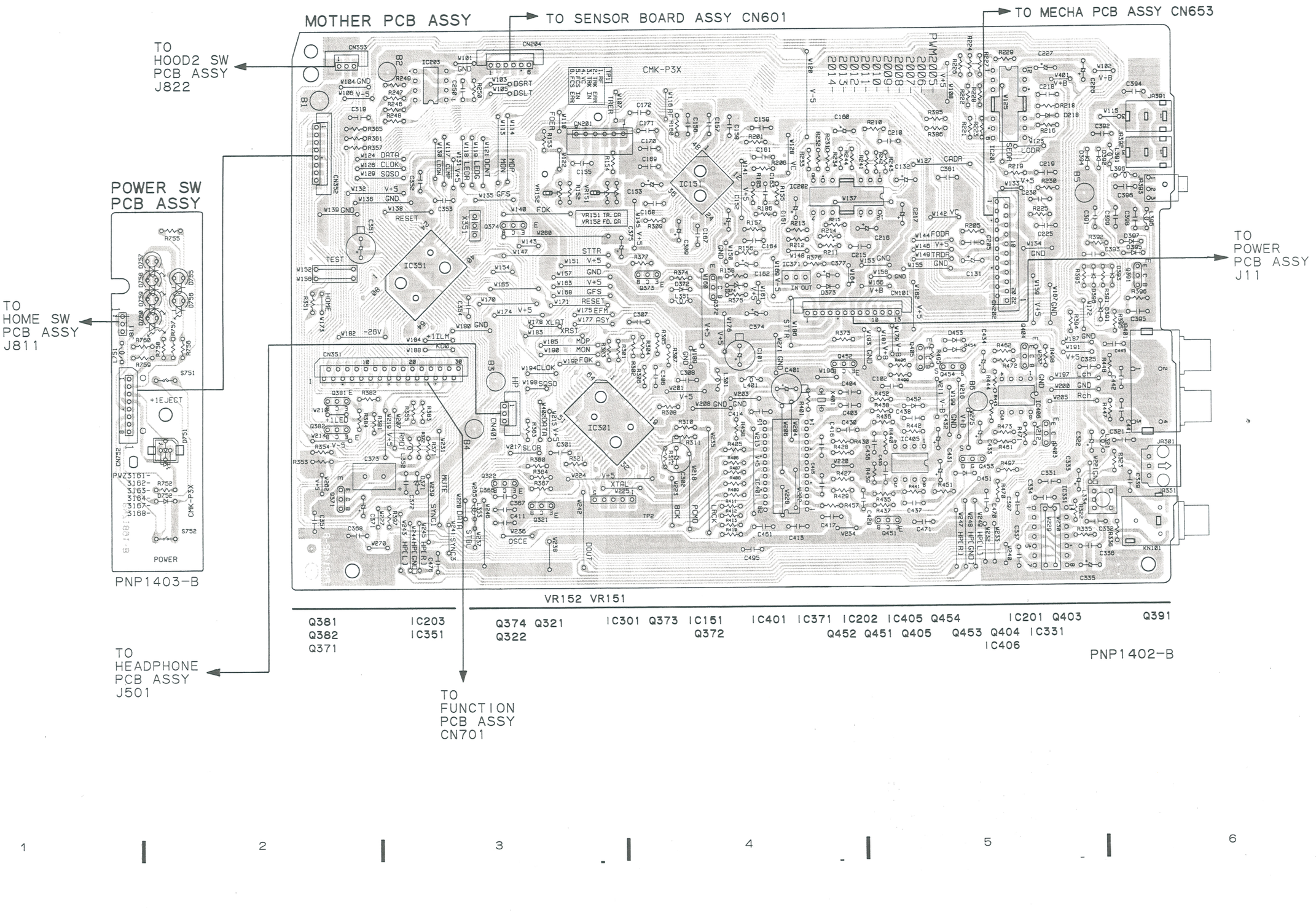


2. SCHEMATIC AND PCB DIAGRAMS

Note:
The numbers marked with a circle show the number of each measuring point, which correspond to the number in the service manual PD-F805 (ORDER NO. RRV1439) on page19.



- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
  For further information for respective destinations, be sure to check with the schematic diagram.



■ CONTRAST OF PCB ASSEMBLIES

MOTHER PCB ASSY

PWM2011 and PWM2005 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PWM2005	PWM2011	
	IC331	Not used	MC74HCU04N	*
	IC401	PD2026B (L)	PD2029A (L)	
	IC405	NJM4558DX	NJM4565D – D	
	Q451, Q452	Not used	DTC124ES	*
	Q453, Q454	Not used	2SJ103	*
	D451, D452	Not used	1SS254	*
	L334	Not used	PTL1003	*
	L353	Not used	LAU010J	*
	C152, C302	Not used	CEAS471M6R3	*
	C216	Not used	CEAS101M16	*
	C217, C226, C227	Not used	CEAS221M16	*
	C331	Not used	CKCYF103Z50	*
	C333	Not used	CEAS101M25	*
	C334	Not used	CFTXA103J50	*
	C335	Not used	CEAS470M25	*
	C336, C339, C411	Not used	CFTXA104J50	*
	C367, C368	Not used	CCCSL101J50	*
	C401	CFTYA104J50	CEAS471M6R3	
	C413 – C416	CFTYA104J50	CFTXA104J50	
	C431, C432	CEAS330M16	CEZA101M25	
	C433, C434	CEAS220M25	CEANP220M35	
	R321	RD1/4PU102J	RD1/4PU471J	
	R322	Not used	RD1/4PU152J	*
	R323	RD1/4PU152J	RD1/4PU302J	
	R335	Not used	RD1/4PU122J	*
	R336	Not used	RD1/4PU750J	*
	R351	Not used	RD1/4PU221J	*
	R406, R407	Not used	RD1/4PU471J	*
	R451, R452	Not used	RD1/4PU103J	*
	R457, R458	Not used	RD1/4PU102J	*
	VR151, VR152	RCP1030 (3.3kΩ)	RCP1046 (22kΩ)	
	JA331	Not used	RKB1012	*
	Earth Plate	Not used	RKB1023	*

Note * : Refer to "2.SCHEMATIC AND PCB DIAGRAMS".

POWER SW PCB ASSY

PWZ3162 and PWZ3161 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PWZ3161	PWZ3162	
	D751	Not used	PCX1019	*

Note * : Refer to "2.SCHEMATIC AND PCB DIAGRAMS".

POWER PCB ASSY

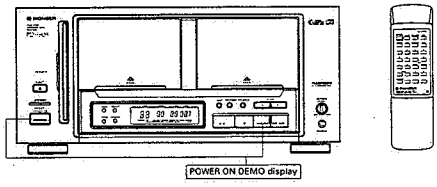
PWZ3185 and PWZ3179 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		PWZ3179	PWZ3185	
	C26	CEAS222M16	CEAS472M16	
	C27, C28	CEAS330M16	CEAS471M6R3	

PIONEER®
The Art of Entertainment

PION-04907

Service Manual



ORDER NO.
RRV1439

FILE-TYPE CD PLAYER

PD-F805

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PD-F805		
KU	O	AC120V	
KC	O	AC120V	

- **For the circuit and mechanism descriptions, refer to the service guide RRV1469 for PD-F805.**

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O.Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Lane Crawford Place, Singapore 0923

T-FFY DEC. 1995 Printed in Japan

4907

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

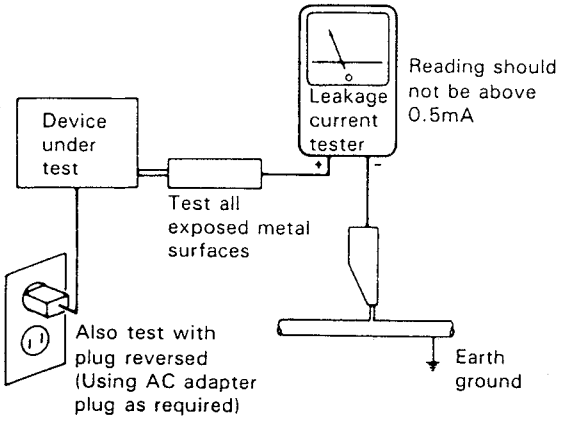
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. PACKING AND PARTS LIST

NOTES:

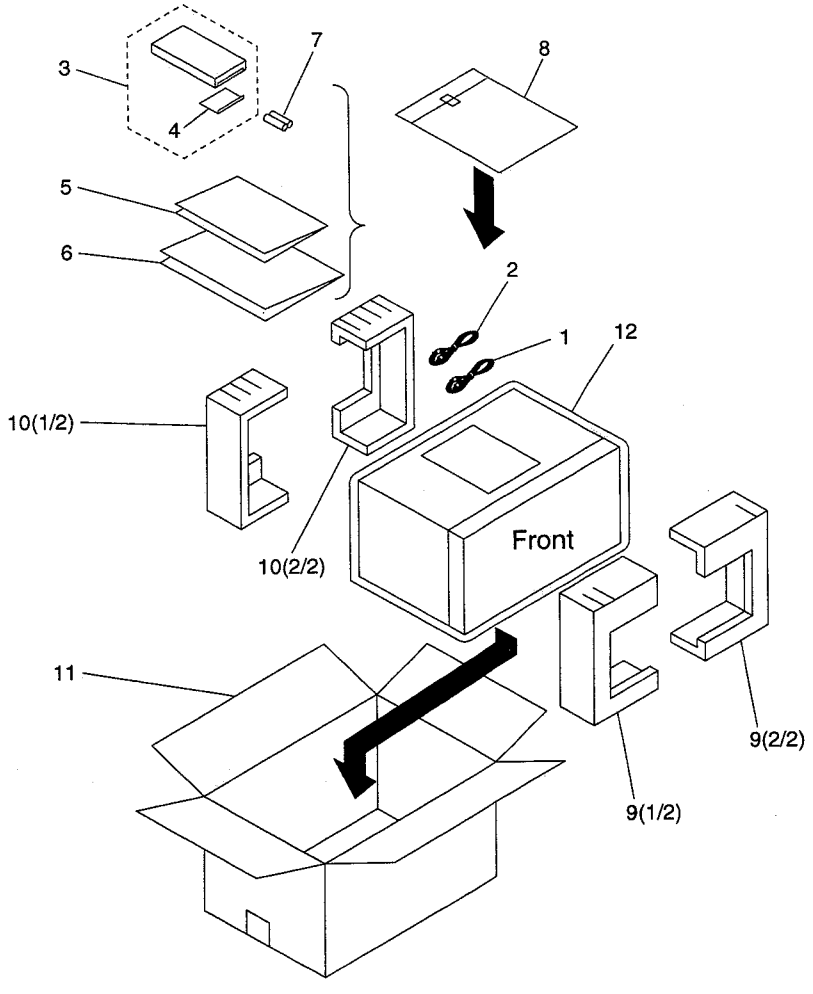
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

PARTS LIST

Mark	No.	Description	Parts No.
	1	Cord With Mini Plug	PDE1247
	2	Cord With Plug	PDE1248
	3	Wireless Remote Control Unit	PWW1108
	4	Battery Cover	AZN2249
NSP	5	Warranty Card (KU Type)	ARY1044
NSP	5	Warranty Card (KC Type)	ARY1039
	6	Operating Instructions (English) (KU Type)	PRB1238
	6	Operating Instructions (English/French) (KC Type)	PRE1229

Mark	No.	Description	Parts No.
NSP	7	Battery (R6P, AA)	VEM – 013
	8	Polyethlene Bag	Z21 – 038
	9	Styrol Protector F	PHA1305
	10	Styrol Protector R	PHA1306
	11	Packing Case U8 (KU Type)	PHG2189
	11	Packing Case C8 (KC Type)	PHG2176
	12	Mirror Mat	Z23 – 020

PACKING



3. EXPLODED VIEWS AND PARTS LIST

NOTES:

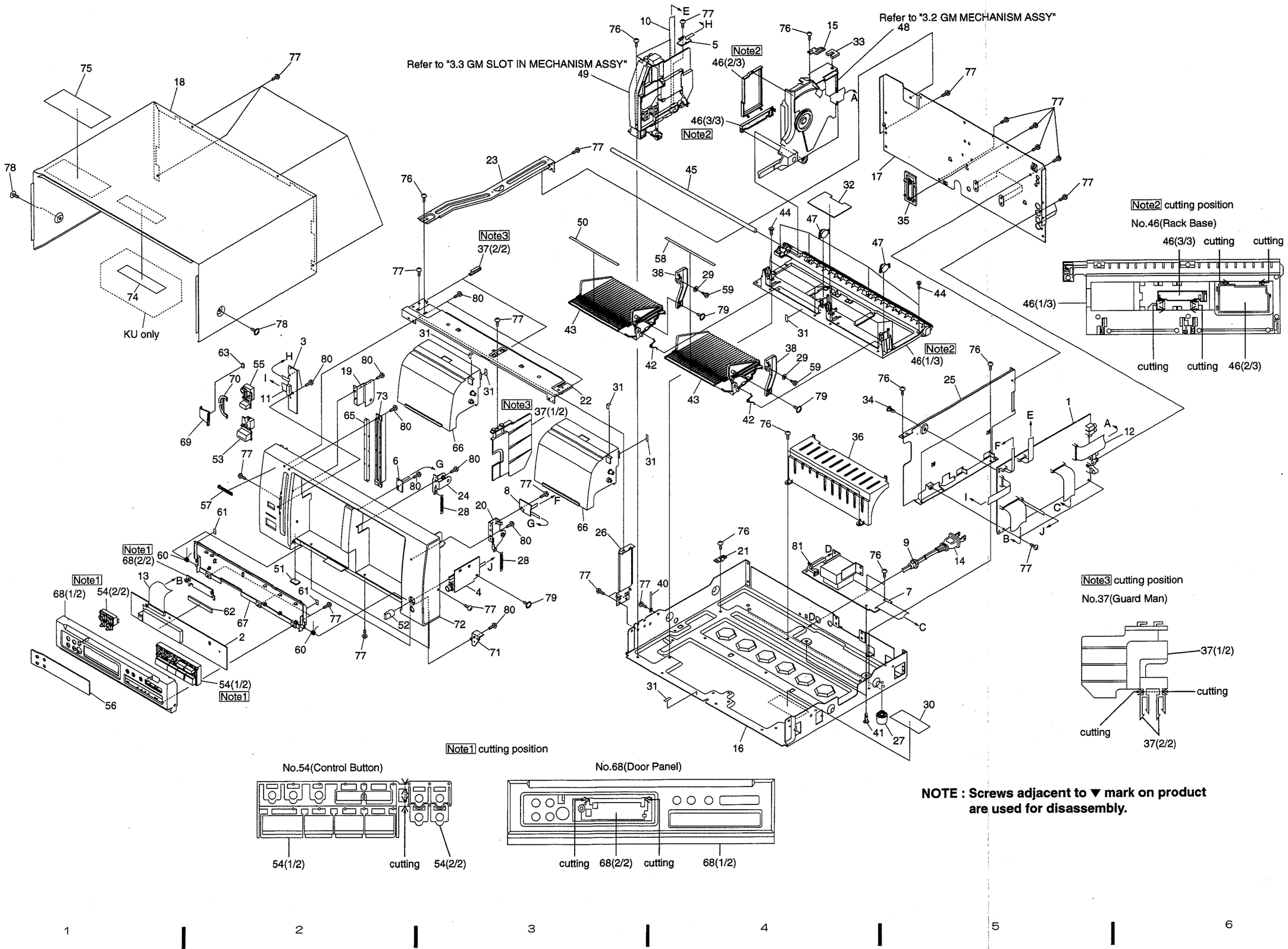
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

3.1 EXTERIOR

Parts List

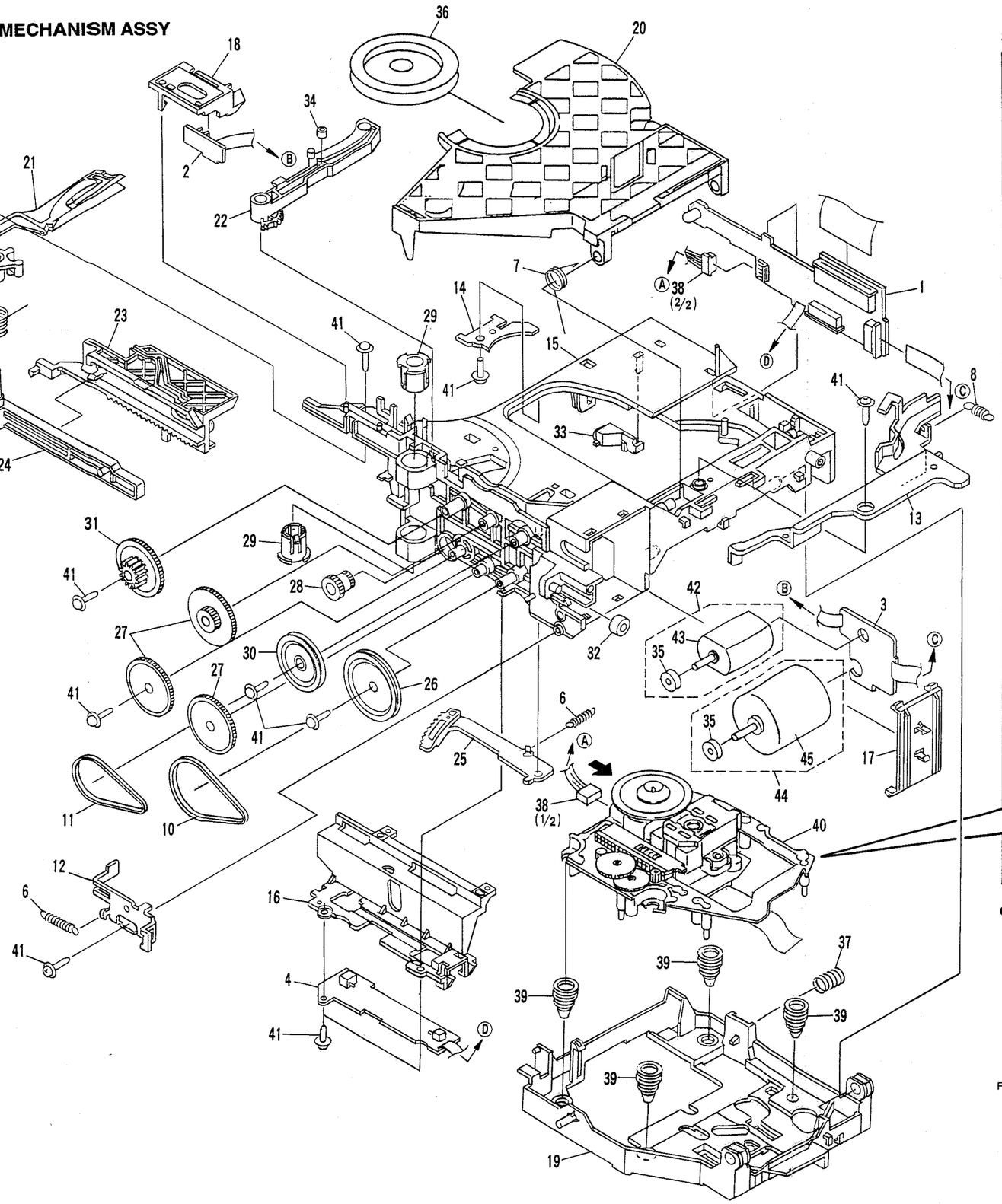
Mark	No.	Description	Parts No.
⚠	1	Mother PCB Assy	PWM2005
NSP	2	Function PCB Assy	PWZ3155
NSP	3	Power SW PCB Assy	PWZ3161
NSP	4	Headphone PCB Assy	PWZ3165
NSP	5	Home SW PCB Assy	PWZ3171
NSP	6	Hood1 SW PCB Assy	PWZ3173
	7	Power PCB Assy	PWZ3179
NSP	8	Hood2 SW PCB Assy	PWZ3295
⚠	9	Cord Stopper	CM – 22C
NSP	10	Jumper Wire (6P)	D20PYY0670E
	11	Jumper Wire (8P)	D20PYY0870E
	12	22P F.F.C/30V	PDD1171
	13	30P F.F.C/30V	PDD1172
⚠	14	AC Power Cord	PDG1015
NSP	15	Assist Angle	ANB7043
NSP	16	Under Base	PNA2244
	17	Rear Base U8	PNA2245
	18	Bonnet Case	PYY1192
	19	Hood Angle L	PNB1546
	20	Hood Angle R	PNB1547
	21	Home Lock Angle 2	PNB1549
	22	Panel Angle 50	PNB1551
	23	Home Lock Angle 50	PNB1552
	24	Hood Angle C	PNB1553
	25	PCB Holder	PNB1560
	26	Side Angle	PNB1561
	27	Foot Assy	AEC1531
	28	Link Spring 50	PBH1218
	29	Link Spacer	PEB1292
	30	Sheet	PEC1033
NSP	31	Cushion	PED1016
	32	FFC Holder 2	PNM1288
	33	Spacer	PNM1295
NSP	34	PCB Holder	PNW1861
	35	FFC Holder	PNW2615
	36	Cover	PNW2622
	37	Guard Man	PNW2623
	38	Link 50	PNW2650
	39	.....	
	40	Cord Clamper	RNH – 184

Mark	No.	Description	Parts No.
NSP	41	Locking Card Spacer	VEC1596
	42	Rack Spring	ABH7057
	43	Disc Rack	ANW7069
	44	Screw C	PBA1106
	45	Guide Shaft L	PLA1141
	46	Rack Base	PNW2611
	47	Damper Assy 80	PXA1584
NSP	48	GM Mechanism Assy	AXA7026
NSP	49	GM Slot In Mechanism Assy	AXA7027
	50	Disc Rack Panel	AAK7251
	51	Rubber Sheet	AEB1111
	52	Headphone Knob	PAC1600
	53	Power Button	PAC1815
	54	Control Button	PAC1819
	55	Eject Button	PAC1820
	56	Display Window R8	PAM1703
	57	Name Plate	PAM1704
	58	Disc Rack Panel 2	PAM1710
	59	Screw P	PBA1107
	60	Door Spring	PBH1217
	61	Door Rubber	PEB1290
	62	FFC Spacer	PEB1291
NSP	63	Lens Spacer	PEB1294
	64	.....	
	65	Blind Felt	PNW1286
	66	Hood	PNW2613
	67	Door Stay	PNW2620
	68	Door Panel	PNW2621
	69	Lens 1	PNW2624
	70	Lens 2	PNW2625
	71	Door Suporter	PNW2626
	72	Control Panel U8	PNW2627
	73	Felt Holder	PNW2631
	74	65 Label (KU ONLY)	ORW1069
	75	Caution Label Plus 1E	PRW1425
	76	Screw	BBZ30P060FMC
	77	Screw	BBZ30P080FZK
	78	Screw	FBT40P080FZK
	79	Screw	IBZ30P080FMC
	80	Screw	PPZ30P080FMC
	81	Binder	ZCA – SKB90BK

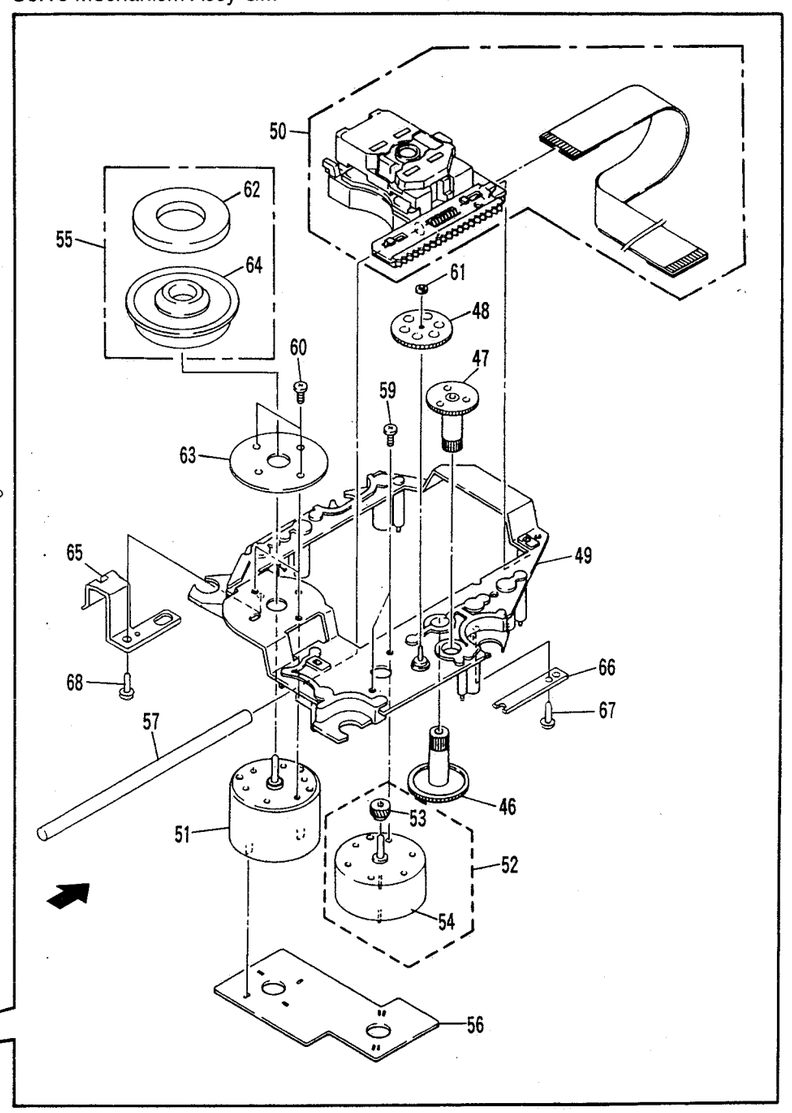


NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

3.2 GM MECHANISM ASSY



Servo Mechanism Assy GM

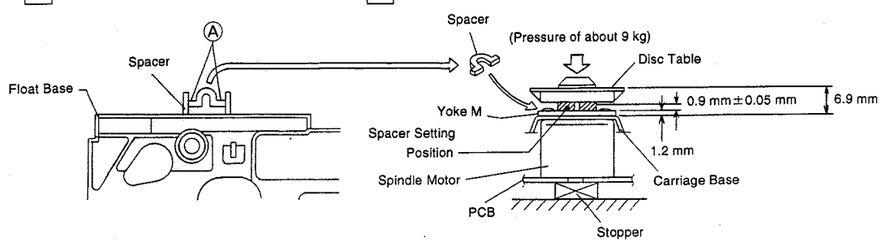


● How to install the disc table

1 Use nipper or other tool to cut the two sections marked Ⓐ figure 1.
Then remove the spacer.

2 While supporting the spindle motor shaft with the stopper, put spacer on top of the yoke M, and stick the disc table on top (takes about 9kg pressure). Take off the spacer.

1 2



Parts List

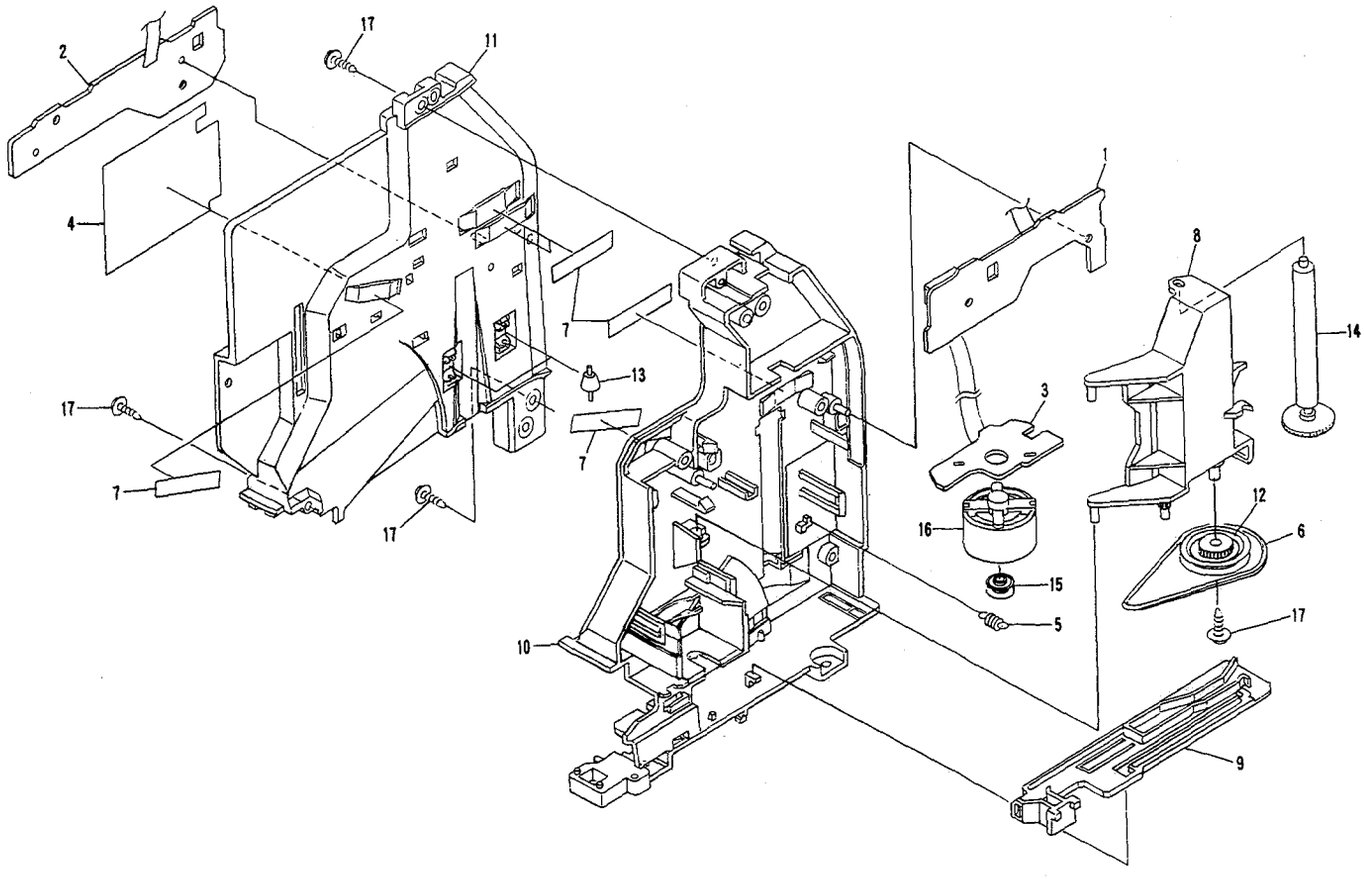
Mark	No.	Description	Parts No.
NSP	1	Mecha PCB Assy	AWZ7835
NSP	2	Sensor PCB Assy	AWZ7836
NSP	3	Motor PCB Assy	AWZ7837
NSP	4	SW PCB Assy	AWZ7838
	5	Arm A Spring	ABH7050
	6	Gear Plate Spring	ABH7051
	7	Clamp Spring	ABH7107
	8	Lock Lever Spring	ABH7106
	9	.....	
	10	Loading Belt	AEB7029
	11	Belt	AEB7030
NSP	12	Lock Angle	ANB7027
NSP	13	Lock Lever	ANB7038
NSP	14	Servo Stopper S	ANB7047
	15	Loading Base	ANW7051
	16	Cam Cover	ANW7052
	17	Motor Holder	ANW7053
	18	Sensor Holder	ANW7054
	19	Float Base	ANW7088
	20	Clamper Holder	ANW7056
	21	Arm (A)	ANW7057
	22	Arm (B)	ANW7058
	23	Drive Plate	ANW7059
	24	Arm Plate	ANW7060
	25	Gear Plate	ANW7061
	26	Gear Pulley (B)	ANW7062
	27	Gear A	ANW7063
	28	Drive Gear	ANW7064
	29	Bearing	ANW7065
	30	Gear Pulley (A)	ANW7066
	31	Select Gear	ANW7067
	32	Roller	ANW7068
	33	LED Lens	ANW7072
	34	Roller B	ANW7075
	35	Motor Pulley	PNW1634
	36	Clamper	PNW2569
	37	Float Spring	ABH7049
	38	Connector Assy (4P)	ADE7006
	39	Float Rubber	AEB7028
NSP	40	Servo Mechanism Assy GM	AXA7028
	41	Screw	IPZ20P080FMC
	42	Motor Assy	AEA7005
NSP	43	Motor	PXM1002
	44	Motor Assy	AEA7006
	45	Loading Motor	VXM1034
	46	Gear 1	PNW2052
	47	Gear 2	PNW2053
	48	Gear 3	PNW2054
	49	Carriage Base	PNW2445
	50	Pickup Assy	AEA7004

Mark	No.	Description	Parts No.
	51	D.C. Motor Assy	PEA1235
	52	Carriage DC Motor Assy	PEA1246
	53	Pinion Gear	PNW2055
NSP	54	Carriage DC Motor/0.3W	PXM1027
	55	Disc Table Assy	PEA1314
	56	Mechanism Board Assy	PWX1192
	57	Guide Bar	PLA1094
	58	.....	
	59	Screw	JFZ17P025FZK
	60	Screw	JFZ20P040FMC
	61	Washer	WT12D032D025
	62	Clamp Magnet	PMF1014
	63	Yoke M	PNB1312
NSP	64	Disc Table	PNW2410
NSP	65	Float Angle	ANB7020
	66	Gear Stopper	PNB1303
	67	Screw	BPZ20P060FMC
	68	Screw	BPZ26P100FMC
		Froil (for Service)	GYA1001
		Ha Narl (for Service)	GEM1016

3.3 GM SLOT IN MECHANISM ASSY

Parts List

Mark	No.	Description	Parts No.
NSP	1	Sensor Board Assy	AWZ7839
NSP	2	LED Board Assy	AWZ7840
NSP	3	Motor Board Assy	AWZ7841
	4	Blind	AAK7219
	5	Roller Spring	ABH7063
	6	Belt	AEB7033
	7	Ecsaine	AED7004
	8	Gear Holder	ANW7047
	9	Slide Plate	ANW7048
	10	Case (M)	ANW7049
	11	Case (S)	ANW7077
	12	Gear Pulley A	ANW7066
	13	Guide Roller	ANW7076
	14	Roller Assy	AXA7029
	15	Motor Pulley	PNW1634
	16	DC Motor /0.75W	PXM1010
	17	Screw	IPZ20P080FMC



4. SCHEMATIC AND PCB CONNTCTION DIAGRAMS

4.1 GM MECHANISM AND GM SLOT IN MECHANISM

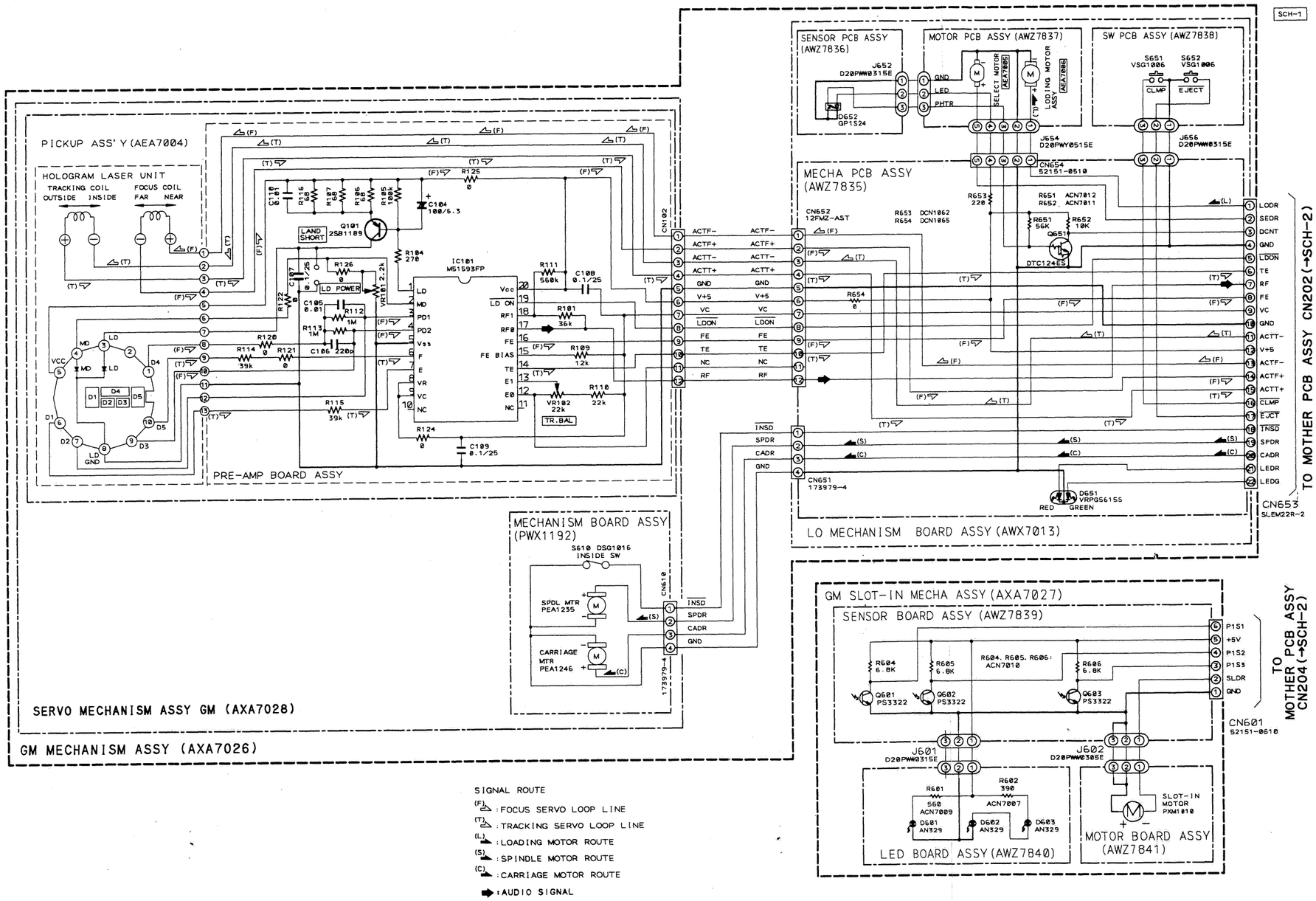
NOTE FOR SCHEMATIC DIAGRAMS (Type 4A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/voltage(V) unless othrewise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ▭ or ← V:
   DC voltage (V) in PLAY mode unless otherwise noted.
   ⇦ mA or ← mA:
   DC current in PLAY mode unless otherwise noted.
   Value in ( ) is DC current in STOP mode.
7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - ◀ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH-☐ ON THE SCHEMATIC DIAGRAM:**
   - SCH-☐ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):
   FUNCTION PCB ASSY
   S701 : MODE
   S702 : CLEAR
   S703 : ■
   S704 : |◀◀ ◀◀
   S705 : ▶▶ ▶▶|
   S708 : PGM
   S709 : ▶/II
   S710 : BEST
   S711 : DISC (–)
   S712 : DISC (+)
   S713 : RANDOM
   S714 : REPEAT
   S715 : PREVIOUS
   POWER SW PCB ASSY
   S751 : EJECT
   S752 : POWER STANDBY/ON

NOTE FOR PCB DIAGRAMS:

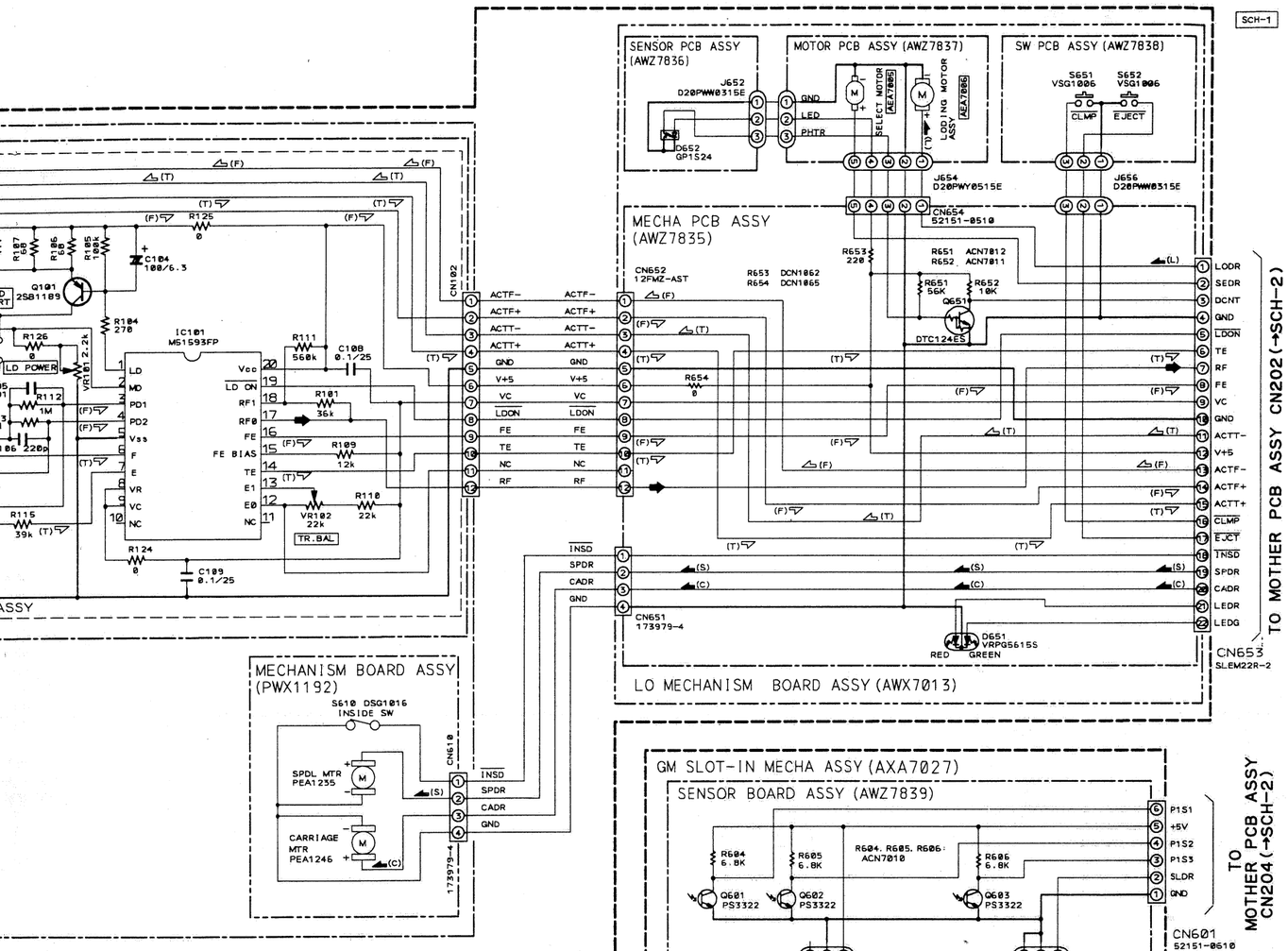
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator



SIGNAL ROUTE

(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(L) : LOADING MOTOR ROUTE
(S) : SPINDLE MOTOR ROUTE
(C) : CARRIAGE MOTOR ROUTE
➡ : AUDIO SIGNAL



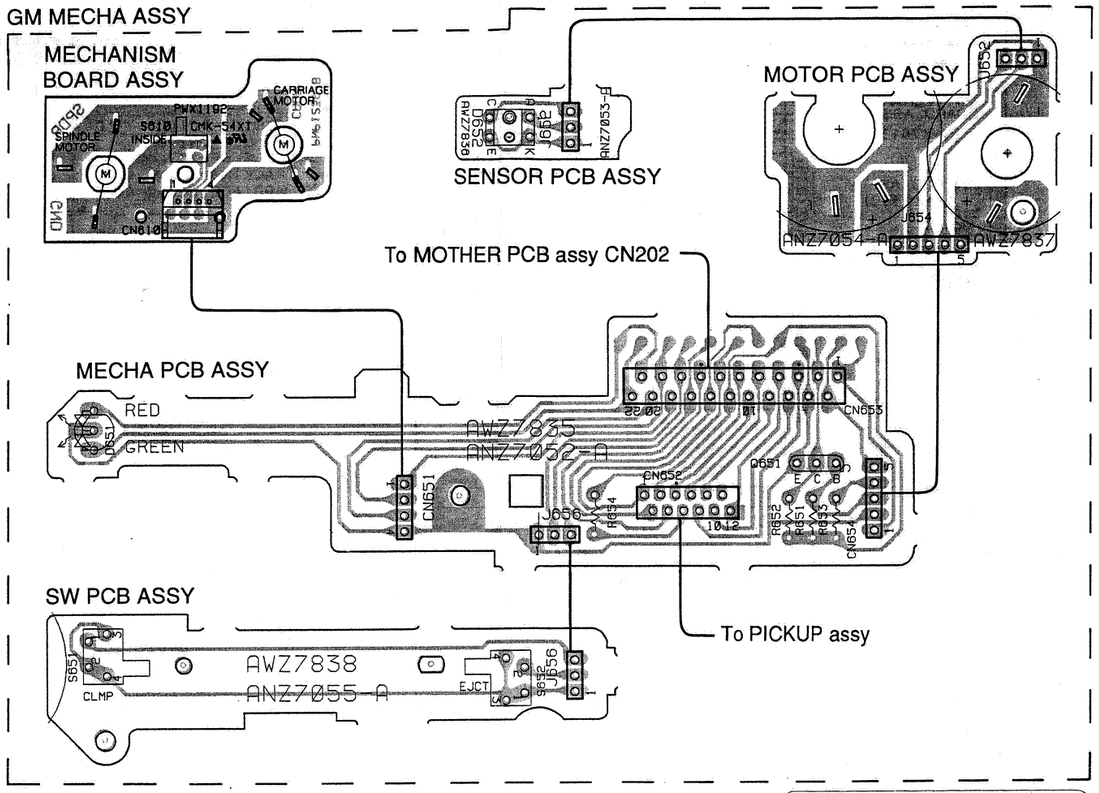
SIGNAL ROUTE

(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(L) : LOADING MOTOR ROUTE
(S) : SPINDLE MOTOR ROUTE
(C) : CARRIAGE MOTOR ROUTE
: AUDIO SIGNAL

GM MECHANISM ASSY,
GM SLOT IN MECHANISM ASSY

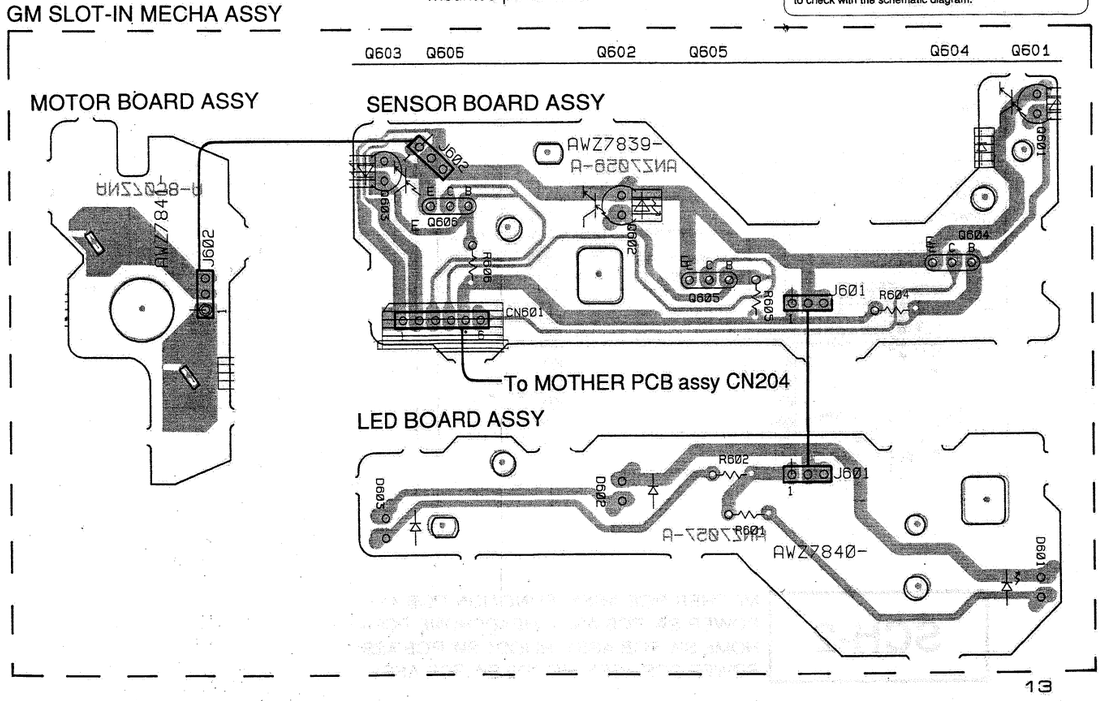
SCH-1

PCB−1



- This diagram is viewed from the mounted parts side.

The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.



PCB-2

HOOD1 SW PCB ASSY

HOOD2 SW PCB ASSY

MOTHER PCB ASSY

TO SENSOR BOARD ASSY CN601

TO MECHA PCB ASSY CN653

POWER PCB ASSY

POWER SW PCB ASSY

HOME SW PCB ASSY

HEADPHONE PCB ASSY

FUNCTION PCB ASSY

IC22
IC35

IC31
–
IC34

AC IN

VR152 VR151

Q381 Q382 Q352 Q371 — IC203 IC351

Q374 Q321 Q322 — IC301 Q373 IC151 Q372 — IC401 IC371 IC202 IC405 Q454 Q452 Q451 Q405 Q453 Q404 IC331 IC406 — IC201 Q403 — Q391

PNP1402-A

IC702

PNP1403-A

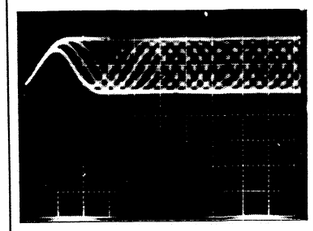
- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

Waveforms

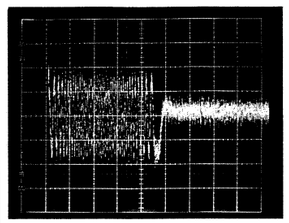
Note : The encircled numbers denote measuring points in the schematic diagram.

*1 50T-JUMP : After switching to the pause mode, press the manual search key.
*2 FOCUS-IN : Press the key without loading a disc.

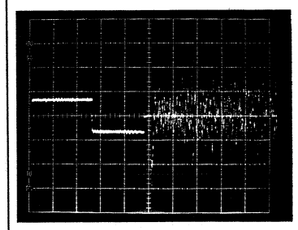
② TP1-Pin 1 : PLAY MODE (RF)
500mV/div 500nsec/div



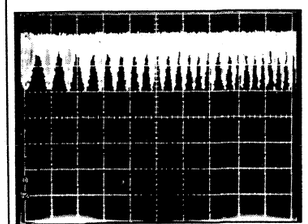
④ TP1-Pin 2 : 50T - JUMP (*1) MODE (TRER)
1V/div 1msec/div



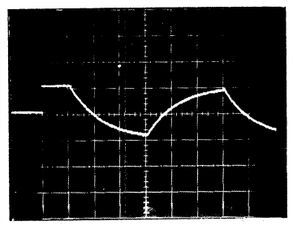
⑥ IC202-Pin 4 : 50T - JUMP (*1) MODE (TRDR)
500mV/div 1msec/div



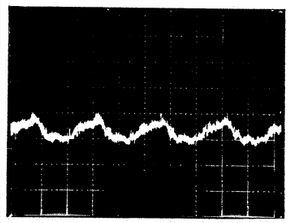
② TP1-Pin 1 : TRACK SEARCH MODE (RF)
500mV/div 200µsec/div



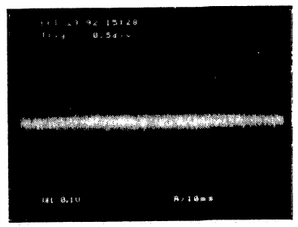
⑤ IC202-Pin 3 : FOCUS-IN(*2) MODE (FODR)
1V/div 200msec/div



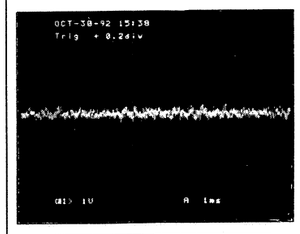
⑦ IC201-Pin 9 : PLAY MODE (SPDR)
1V/div 50msec/div



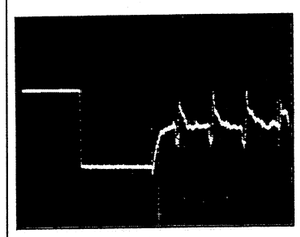
③ TP1-Pin 6 : PLAY MODE (FOER)
100mV/div 10msec/div



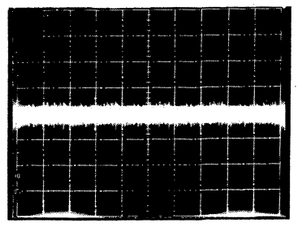
⑤ IC202-Pin 3 : PLAY MODE (FODR)
1V/div 1msec/div



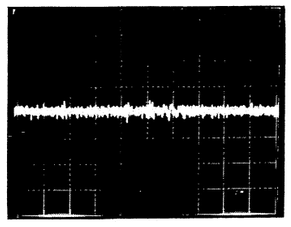
⑦ IC201-Pin 9 : TRACK SEARCH MODE (SPDR)
2V/div 50msec/div



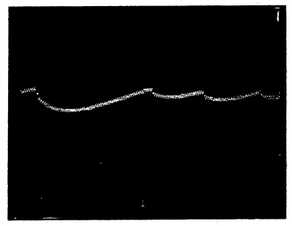
④ TP1-Pin 2 : PLAY MODE (TRER)
1V/div 1msec/div



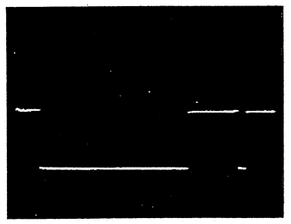
⑥ IC202-Pin 4 : PLAY MODE (TRDR)
500mV/div 1msec/div



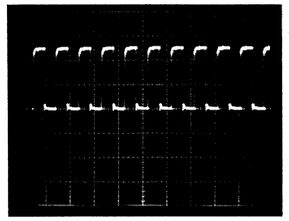
⑧ IC202-Pin 9 : PLAY MODE (CADR)
0.2V/div 2sec/div



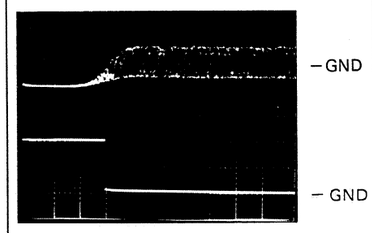
⑧ IC202-Pin 9 : TRACK SEARCH MODE (CADR)
2V/div 200msec/div



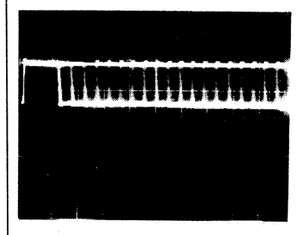
⑯ IC301-Pin 22 : PLAY MODE (1kHz) (BCLK)
2V/div 500nsec/div



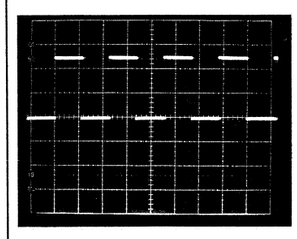
㉔ : PLAY MODE
Upper: TP1-Pin1 (RF) 1V/div
Lower: IC151-Pin30 (DFCT)
5V/div 200µsec/div



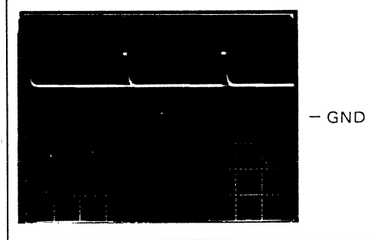
⑨ IC151-Pin 32 : PLAY MODE (EFM)
2V/div 500nsec/div



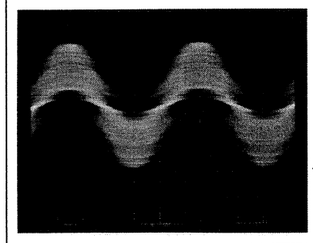
⑱ IC301-Pin 20 : PLAY MODE (1kHz) (LRCK)
2V/div 10µsec/div



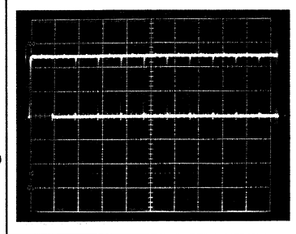
㉝ IC301-Pin 3 : PLAY MODE (MDP)
2V/div 2µsec/div



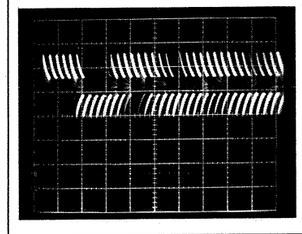
⑩ IC401-Pin 9 : PLAY MODE (1kHz) (LO) (D/A DATA OUT)
1V/div 200µsec/div



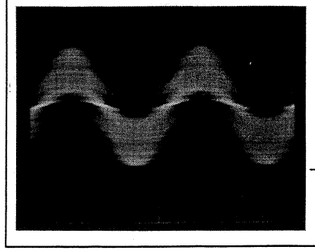
⑲ IC301-Pin 21 : PLAY MODE (1kHz) (DATA)
2V/div 500nsec/div



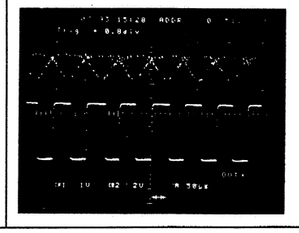
㊸ IC301-Pin 9 : PLAY MODE (PCO)
2V/div 10µsec/div



⑪ IC401-Pin 10 : PLAY MODE (1kHz) (LO) (D/A DATA OUT)
1V/div 200µsec/div



㉓ : TRACK SEARCH MODE
Upper: TP1-Pin1 (RF) 1V/div
Lower: IC151-Pin26 (C.OUT)
2V/div 50µsec/div



5. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	*56 × 10¹*	→ *561*	*RD1/4PU[5][6][1]J*
47kΩ	→	*47 × 10³*	→ *473*	*RD1/4PU[4][7][3]J*
0.5Ω	→	*0R5*		*RN2H[0][R][5]K*
1Ω	→	*1R0*		*RS1P[1][R][0]K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	→	*562 × 10¹*	→ *5621*	*RN1/4PC[5][6][2][1]F*

LIST OF ASSEMBLIES

Mark	No.	Description	Parts No.
⚠		MOTHER PCB ASSY	PWM2005
NSP		SUB PCB ASSY	PWX1448
NSP		├─ FUNCTION PCB ASSY	PWZ3155
NSP		├─ POWER SW PCB ASSY	PWZ3161
NSP		├─ HEADPHONE PCB ASSY	PWZ3165
NSP		├─ HOME SW PCB ASSY	PWZ3171
NSP		├─ HOOD1 SW PCB ASSY	PWZ3173
		├─ POWER PCB ASSY	PWZ3179
NSP		└─ HOOD2 SW PCB ASSY	PWZ3295
NSP		GM MECHANISM ASSY	AXA7026
NSP		├─ LO MECHANISM BOARD ASSY	AWX7013
NSP		│ ├─ MECHA PCB ASSY	AWZ7835
NSP		│ ├─ SENSOR PCB ASSY	AWZ7836
NSP		│ ├─ MOTOR PCB ASSY	AWZ7837
NSP		│ └─ SW PCB ASSY	AWZ7838
NSP		└─ SERVO MECHANISM ASSY GM	AXA7028
		└─ MECHANISM BOARD ASSY	PWX1192
NSP		GM SLOT IN MECHANISM ASSY	AXA7027
NSP		└─ SLOT IN MECHA BOARD ASSY	AWX7014
NSP		├─ SENSOR BOARD ASSY	AWZ7839
NSP		├─ LED BOARD ASSY	AWZ7840
NSP		└─ MOTOR BOARD ASSY	AWZ7841

MOTHER PCB ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC151	SERVO IC	CXA1372Q
⚠	IC201, IC202	POWER OP – AMP IC	LA6520
⚠	IC203	POWER OP – AMP IC	LA6517
	IC301	EFM DEMODULATION IC	CXD2507AQ
	IC351	MICROCOMPUTER,IC	PD4674A
⚠	IC371	REGULATOR IC	NJM2930L05
	IC401	D/A CONVERTER IC	PD2026B(L)
	IC405	OP – AMP IC	NJM4558DX
	IC406	OP – AMP IC	BA15218
	Q321, Q322,	TRANSISTOR	DTC124ES
	Q371, Q372	TRANSISTOR	DTC124ES
	Q381, Q382	TRANSISTOR	2SC1740S
	Q391	TRANSISTOR	2SC1740S
	Q403, Q404	TRANSISTOR	2SD2144S
	Q405	TRANSISTOR	DTC124ES
	D218	DIODE	1SS254
	D372, D373	DIODE	1SS254
	D374	ZENER DIODE	MTZJ3.3B
	D391 – D397	DIODE	1SS254

COILS AND FILTERS

L321, L391	AXIAL INDUCTOR	LAU010J
L395, L396	AXIAL INDUCTOR	LAU010J

CAPACITORS

C101	ELECT. CAPACITOR	CEAS471M6R3
C131	ELECT. CAPACITOR	CEAS330M16
C155	CERAMIC CAPACITOR	CKCYB561K50
C156	CERAMIC CAPACITOR	CGCYX333K25
C157	CERAMIC CAPACITOR	CGCYX103K25
C158, C159	CERAMIC CAPACITOR	CGCYX104K25
C160	ELECT. CAPACITOR	CEAS4R7M50
C161	CERAMIC CAPACITOR	CGCYX104K25
C162	ELECT. CAPACITOR	CEAS4R7M50
C163	CERAMIC CAPACITOR	CGCYX104K25
C164	CERAMIC CAPACITOR	CGCYX103K25
C167	CERAMIC CAPACITOR	CKCYF103Z50
C168	CERAMIC CAPACITOR	CGCYX333K25
C169	CERAMIC CAPACITOR	CGCYX103K25
C170	CERAMIC CAPACITOR	CKCYB332K50
C171	CERAMIC CAPACITOR	CKCYB102K50
C172	CERAMIC CAPACITOR	CKCYB472K50
C205, C210	CERAMIC CAPACITOR	CKCYF103Z50
C215	CERAMIC CAPACITOR	CKCYF103Z50
C218	CERAMIC CAPACITOR	CGCYX103K25
C219, C250	CERAMIC CAPACITOR	CKCYF103Z50
C301	CERAMIC CAPACITOR	CGCYX104K25
C306	CERAMIC CAPACITOR	CKCYB152K50
C307	CERAMIC CAPACITOR	CGCYX473K25
C309	ELECT. CAPACITOR	CEASR47M50
C321	CERAMIC CAPACITOR	CGCYX104K25
C322	ELECT. CAPACITOR	CEAS470M10
C325	CERAMIC CAPACITOR	CGCYX103K25
C351	ELECT. CAPACITOR	CEAS471M6R3
C353, C354	CERAMIC CAPACITOR	CKCYF103Z50

Mark	No.	Description	Parts No.
	C357	CERAMIC CAPACITOR	CGCYX473K25
	C361	CERAMIC CAPACITOR	CKCYF103Z50
	C371	ELECT. CAPACITOR	CEAS010M50
	C373	CAPACITOR (1μF/5.5V)	PCH1132
	C374	ELECT. CAPACITOR	CEAS330M16
	C377	ELECT. CAPACITOR	CEAS470M10
	C393	CERAMIC CAPACITOR	CCCSL101J50
	C401	AUDIO FILM CAPACITOR	CFTYA104J50
	C403	CERAMIC CAPACITOR	CCCCH120J50
	C404	CERAMIC CAPACITOR	CCCCH220J50
	C413 – C416	AUDIO FILM CAPACITOR	CFTYA104J50
	C417	CERAMIC CAPACITOR	CKCYF103Z50
	C429, C430	CERAMIC CAPACITOR	CCCCH390J50
	C431, C432	ELECT. CAPACITOR	CEAS330M16
	C433, C434	ELECT. CAPACITOR	CEAS220M25
	C435 – C438	CERAMIC CAPACITOR	CCCSL390J50
	C441,.C442	FILM CAPACITOR (0.0015μF/AC50V)	PCL1030
	C461	CERAMIC CAPACITOR	CKCYF103Z50
RESISTORS			
	VR151, VR152	VR (22 kΩ)	PCP1030
		Other Resistors	PD1/4PU□□□J
OTHERS			
	CN101	13P JUMPER CONNECTOR	52147 – 1310
	CN201	6P CONNECTOR	RKP – 533 – 0
	CN202	CONNECTOR	HLEM22S – 1
	CN204	6P JUMPER CONNECTOR	52147 – 0610
	CN351	CONNECTOR	HLEM30S – 1
	CN352	8P JUMPER CONNECTOR	52147 – 0810
	CN353, CN401	3P JUMPER CONNECTOR	52147 – 0310
	JA301	OPTICAL OUTPUT JACK	TOTX178
	JA391, JA392	JACK	RKN1004
	JA393	JACK	PKN1005
	JA401	JACK	DKB1031
	X351	CERAMIC RESONATOR (4.19MHz)	VSS1028
	X401	XTAL RES (OSC) (16.9344MHz)	PSS1008
	B2,B3,B5	PCB BINDER	VEF1008

FUNCTION PCB ASSY

SEMICONDUCTORS			
	IC702	REMOTE SENSOR	SBX1785 – 51
	D701 – D705	DIODE	1SS254
SWITCHES AND RELAYS			
	S701 – S705	SWITCH	PSG1006
	S708 – S715	SWITCH	PSG1006
CAPACITORS			
	C701	CERAMIC CAPACITOR	CKCYF223Z50
RESISTORS			
		All Resistors	RD1/4PU□□□J
OTHERS			
	CN701	CONNECTOR	HLEM30R – 1
	V701	FL INDICATOR TUBE	PEL1089

Mark	No.	Description	Parts No.
POWER SW PCB ASSY			
SEMICONDUCTORS			
	D752	DIODE	1SS254
	D755, D756	LED(RED)	SLR – 342VCT31
	D757 – D760	LED(YELLOW)	SLR – 342YCT31
SWITCHES AND RELAYS			
	S751, S752	SWITCH	PSG1006
RESISTORS			
		All Resistors	RD1/4PU□□□J
OTHERS			
	CN752	6PJUMPER CONNECTOR	52151 – 0810

HEADPHONE PCB ASSY

COILS AND FILTERS			
	L501, L504	AXIAL INDUCTOR	LAU010J
	L505	AXIAL INDUCTOR	LAU010J
CAPACITORS			
	C501, C502	CERAMIC CAPACITOR	CKCYF223Z50
	C503	CERAMIC CAPACITOR	CKCYF473Z50
RESISTORS			
	VR501	VARIABLE RESISTOR (5kΩ – B)	PCS1003
OTHERS			
	JA501	JACK	RKN1002

HOME SW PCB ASSY

SWITCHES AND RELAYS			
	S811	PUSH SWITCH	DSG1048

HOOD1 SW PCB ASSY

SWITCHES AND RELAYS			
	S821	PUSH SWITCH	DSG1015

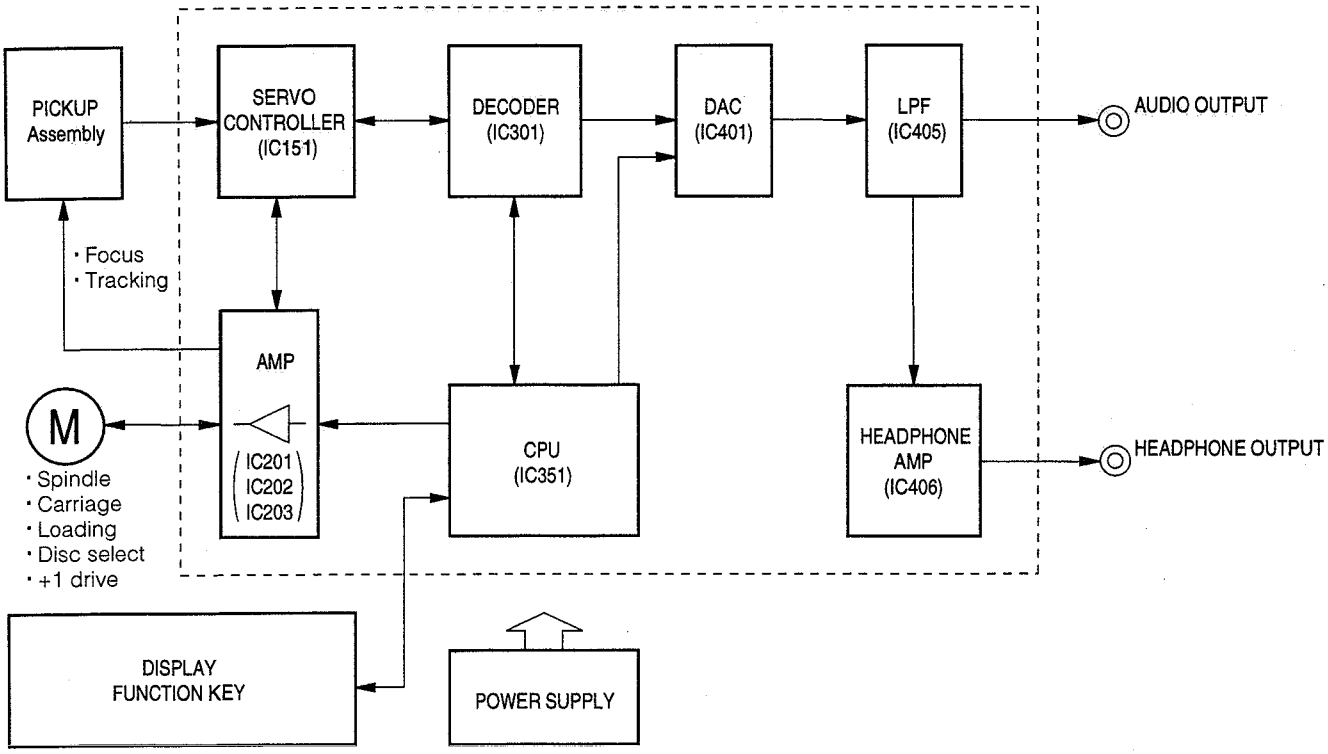
POWER PCB ASSY

SEMICONDUCTORS			
⚠	IC21	REGULATOR,IC	PQ05RR12
⚠	IC22	REGULATOR IC	NJM79L05A
⚠	D11 – D14	DIODE	S5688G
⚠	D31, D32	DIODE	S5688G
⚠	D52	DIODE	S5688G
	D54	ZENNER DIODE	MTZJ18B/C
CAPACITORS			
	C11, C13	CERAMIC CAPACITOR	CKCYF103Z50
	C15, C16	CERAMIC CAPACITOR	CKCYF103Z50
	C25	ELECT. CAPACITOR (6800μF/16V)	VCH1060
	C26	ELECT. CAPACITOR	CEAS222M16
	C27, C28	ELECT. CAPACITOR	CEAS330M16
	C31	ELECT. CAPACITOR	CEAS330M16
	C52	ELECT. CAPACITOR	CEAS101M35
RESISTORS			
		All Resistors	RD1/4PU□□□J

Mark	No.	Description	Parts No.
OTHERS			
⚠		POWER TRANSFOMER	PTT1318
⚠		TERMINAL	RKC – 061
HOOD2 SW PCB ASSY			
SWITCHES AND RELAYS			
	S822	PUSH SWITCH	DSG1015
MECHA PCB ASSY			
SEMICONDUCTORS			
	Q651	TRANSISTOR	DTC124ES
	D651	LED	VRPG5615S
RESISTORS			
	R651	RESISTER (56kΩ)	ACN7012
	R652	RESISTER (10kΩ)	ACN7011
	R653	CARBON FILM RESISTOR (220Ω,1/6W)	DCN1062
	R654	RESISTER (0Ω)	DCN1065
OTHERS			
	CN651	4P CONNECTOR	173979 – 4
	CN652	12P CONNECTOR	12FMZ – AST
	CN653	22P CONNECTOR	SLEM22R – 2
	CN654	5P CONNECTOR	52151 – 0510
SENSOR PCB ASSY			
SEMICONDUCTORS			
	D652	PHOTO INTERRUPTER	GP1S24
OTHERS			
	J652	3P JUMPER WIRE	D20PWW0315E
MOTOR PCB ASSY			
OTHERS			
		LOADING MOTOR	VXM1034
	J651	5P JUMPER WIRE	D20PWY0515E
SW PCB ASSY			
SWITCHES AND RELAYS			
	S651, S652	PUSH SWITCH	VSG1006
OTHERS			
	J656	3P JUMPER WIRE	D20PWW0315E
MECHANISM BOARD ASSY			
SWITCHES AND RELAYS			
	S610	PUSH SWITCH	DSG1016
OTHERS			
	CN610	4P CONNECTOR	173979 – 4
SENSOR BOARD ASSY			
SEMICONDUCTORS			
	Q601 – Q603	PHOTO TRANSISTOR	PS3322
RESISTORS			
	R604 – R606	RESISTER (6.8kΩ)	ACN7010
OTHERS			
	CN601	6PJUMPER CONNECTOR	52151 – 0610

Mark	No.	Description	Parts No.
LED BOARD ASSY			
SEMICONDUCTORS			
	D601 – D603	LED	AN329
RESISTORS			
	R601	RESISTER (560Ω)	ACN7009
	R602	RESISTER (390Ω)	ACN7007
OTHERS			
	J601	3P JUMPER WIRE	D20PWW0315E
MOTOR BOARD ASSY			
OTHERS			
	J602	3P JUMPER WIRE	D20PWW0305E

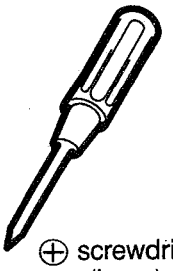
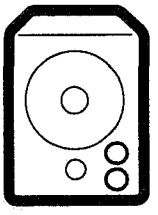
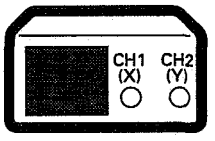
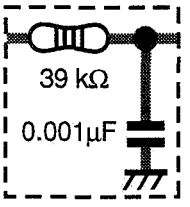
6. BLOCK DIAGRAM



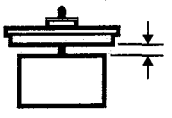
7. ADJUSTMENTS (調整方法)

7.1 PREPARATIONS (準備)

1.1 Jigs and Measuring Instruments (使用測定器/治工具類)

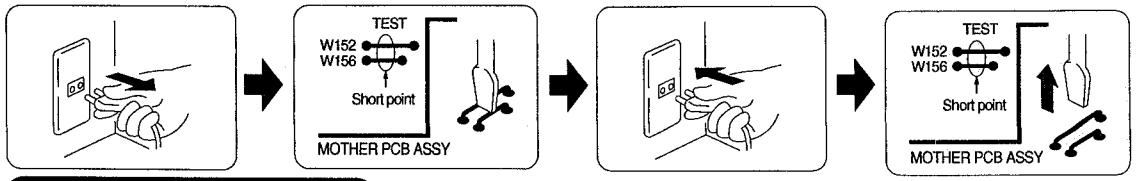
 CD TEST DISC (YEDS-7)	 ⊖ Precise screwdriver	 ⊖ screwdriver (small)	 ⊕ screwdriver (medium)
 ⊕ screwdriver (large)	 Low-frequency oscillator	 Dual-trace oscilloscope (10 : 1 probe)	 Low pass filter (39 kΩ + 0.001μF)

1.2 Necessary Adjustment Points (調整に必要な項目)

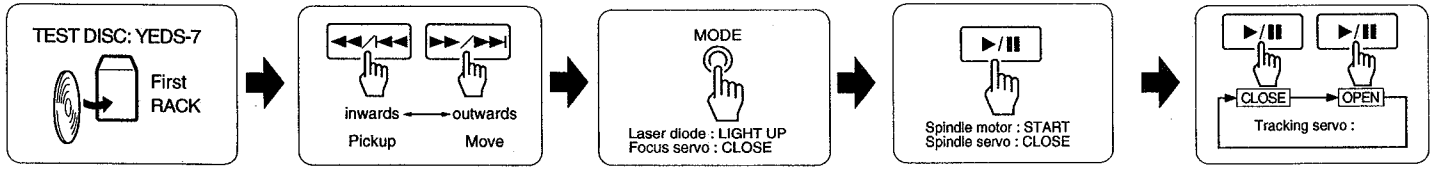
When (このような時)	Adjustment points
Exchange PICKUP (ピックアップを交換した時)	1.2.3.4.5.6. → Page 27~29
Exchange CD ASSY (CD ASSYを交換した時)	1.2.3.4.5.6. → Page 27~29
Exchange SERVO MECH ASSY (サーボメカ ASSYを交換した時)	1.2.3.4.5.6. → Page 27~29
Exchange SPINDLE MOTOR (スピンドルモーターを交換した時)	 ADJ → Page 8

1 How to Start/Cancel Test Mode （テストモードの設定/解除）

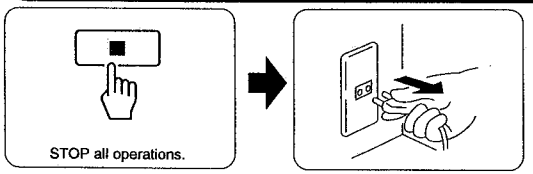
TEST MODE: ON



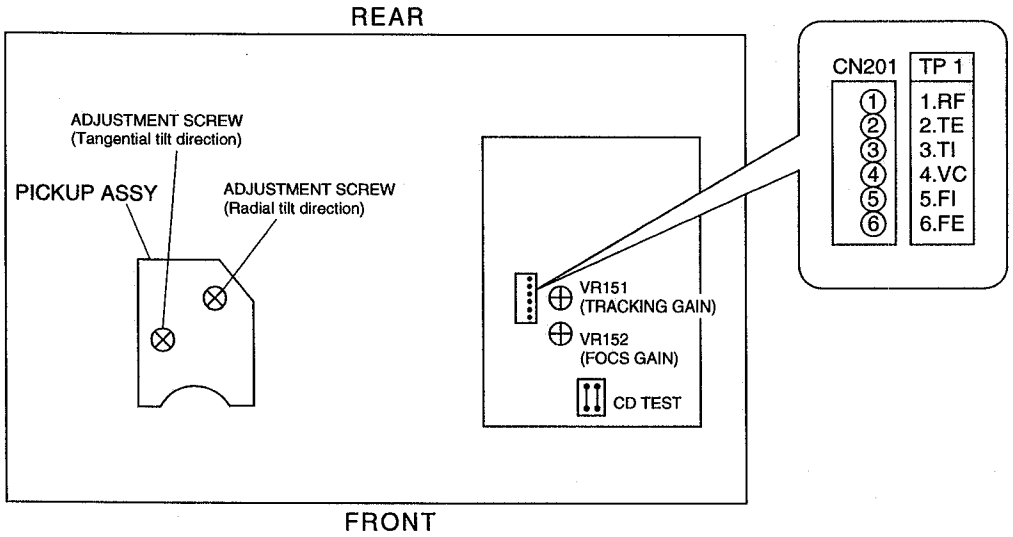
TEST MODE: PLAY



TEST MODE: STOP → CANCEL

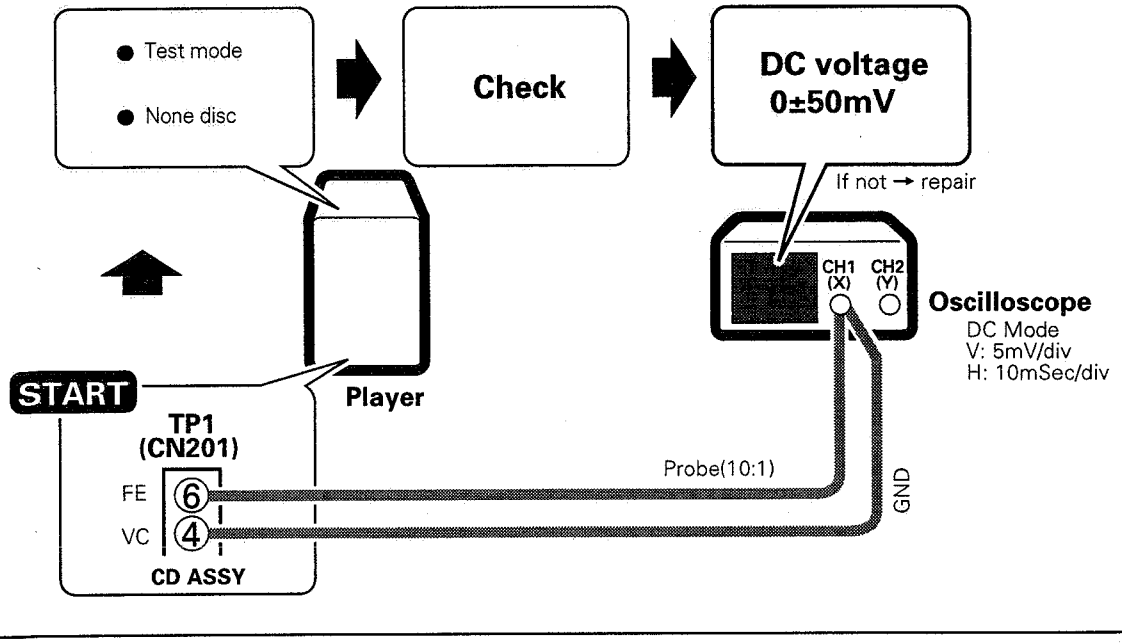


2 Adjustment Locations（テストポイントと調整用VRの位置）

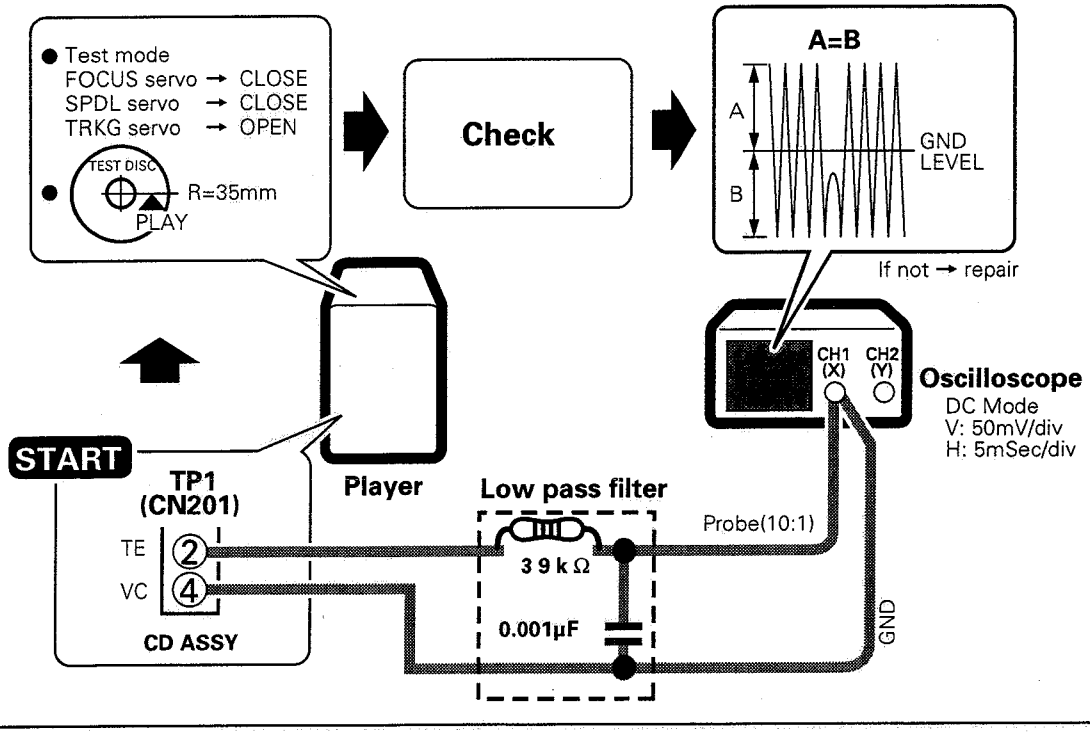


7.3 Check and Adjustment (確認、調整)

1. Focus Offset Check
(フォーカスオフセット確認)

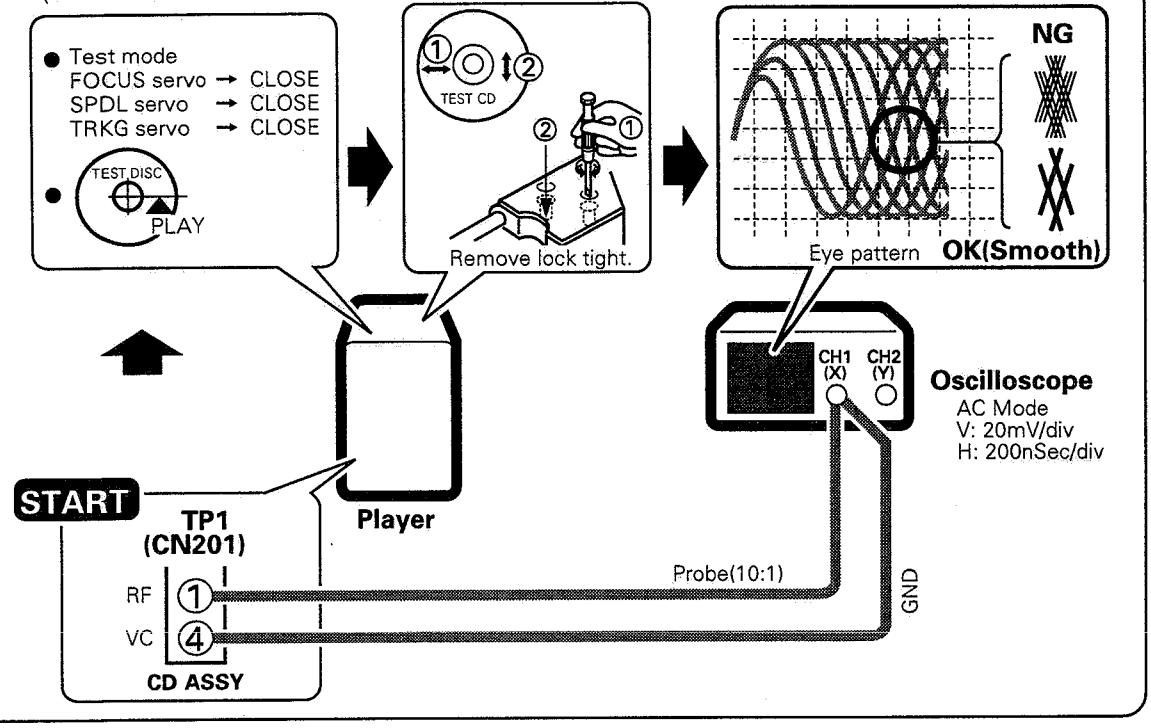


2. Tracking Error Balance Check
(トラッキングエラーバランス確認)



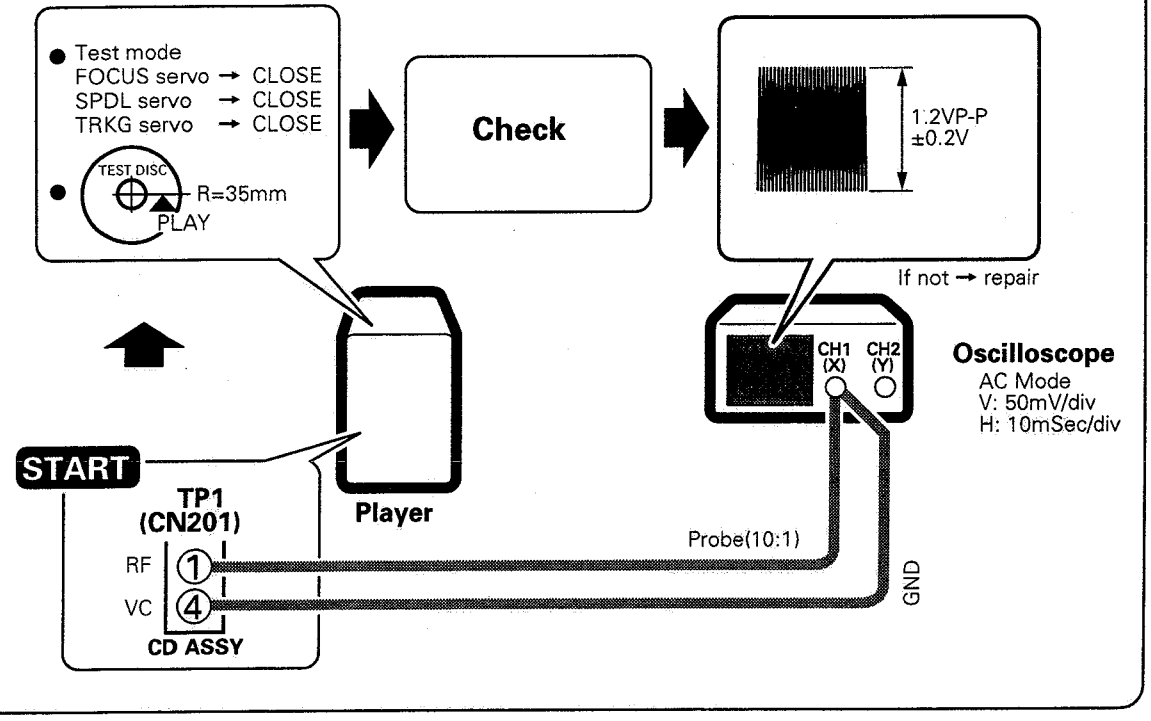
3. PICKUP ①RADIAL / ②TANGENTIAL DIRECTION TILT ADJUSTMENT

(ピックアップ①ラジアル方向②タンジェンシャル方向の傾き調整)

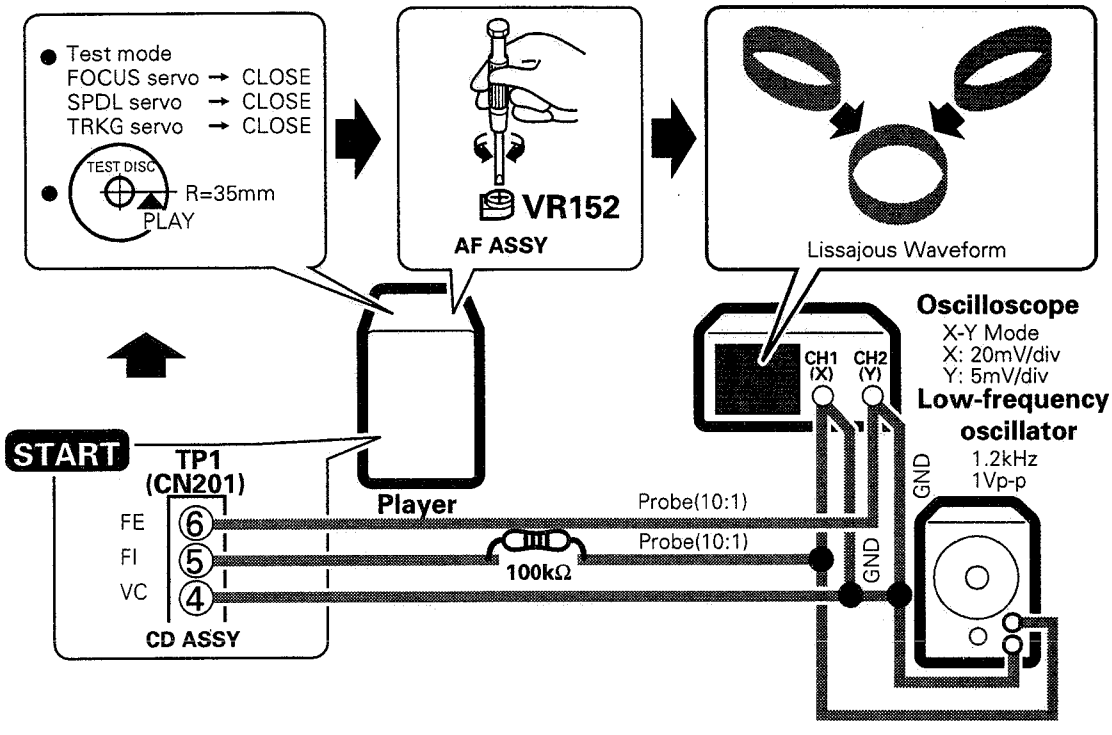


4. RF LEVEL CHECK

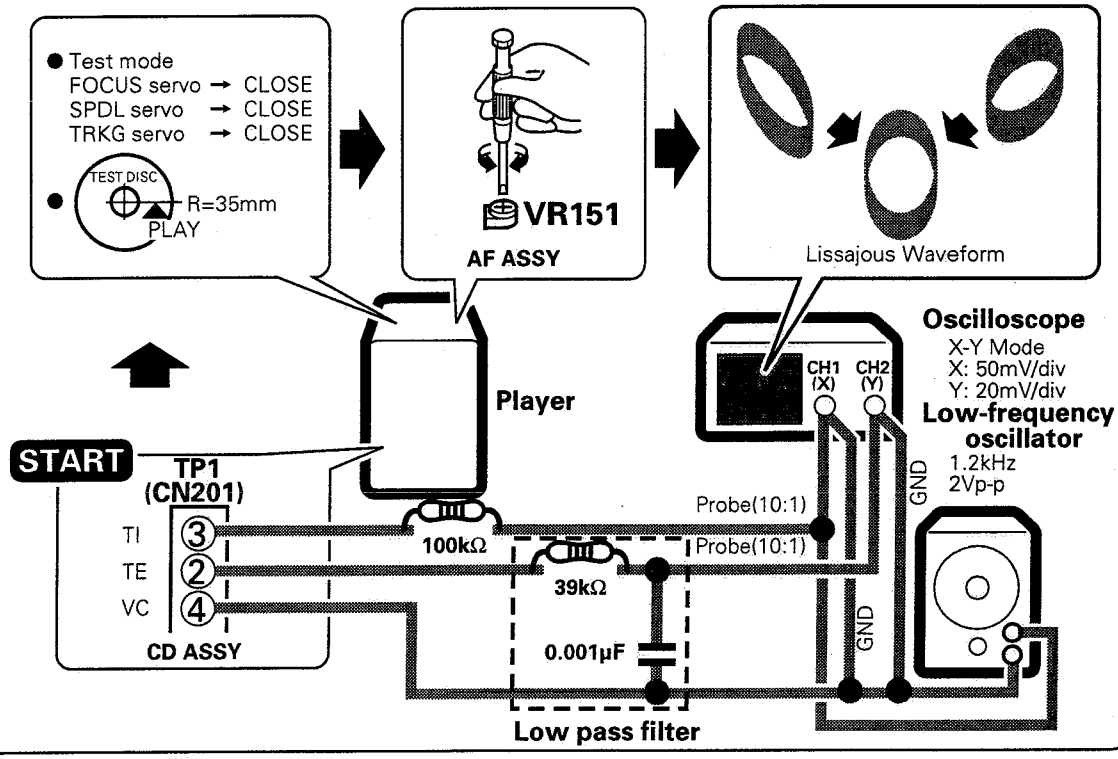
(RFレベル確認)



5. Focus Servo Loop Gain Adjustment
(フォーカスサーボループゲイン調整)



6. Tracking Servo Loop Gain Adjustment
(トラッキングサーボループゲイン調整)



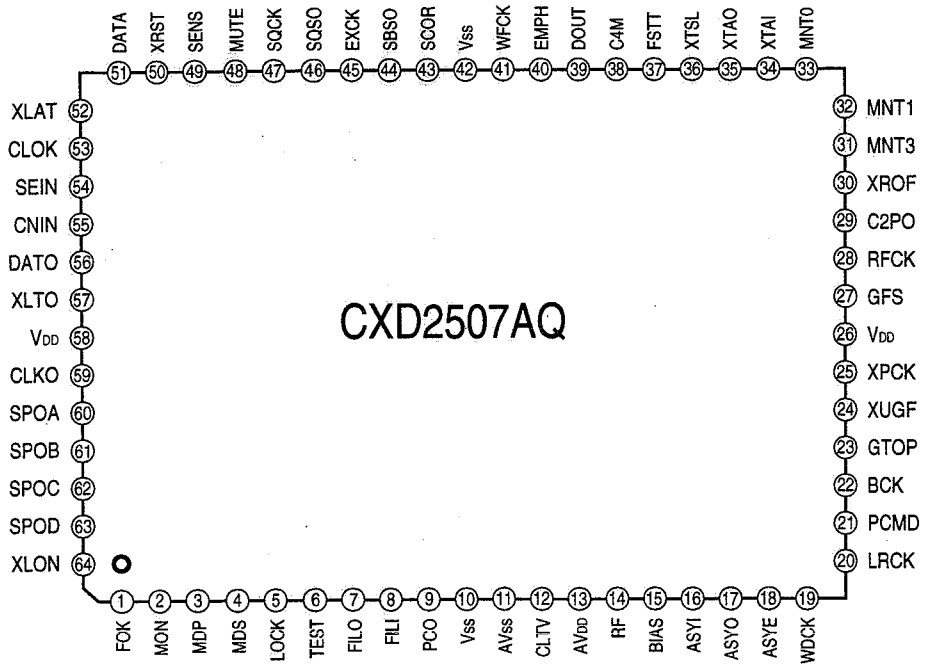
8. IC INFORMATION

■ CXD2507AQ (IC301 : MOTHER PCB ASSY)

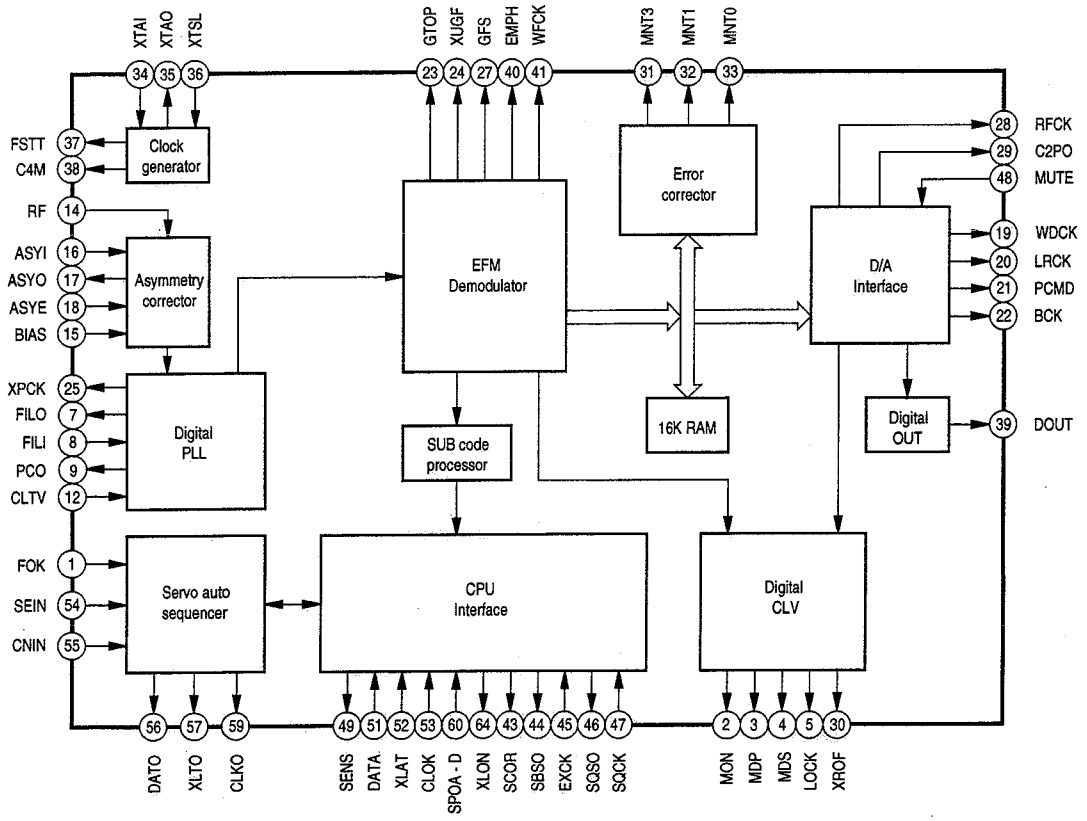
• EFM DEMODULATION IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

• Pin Assignment (Top View)



• Block Diagram



• Pin Functions

CXD2507AQ

No.	Pin name	I/O	Function
1	FOK	I	Focus OK input pin.
2	MON	O	Spindle motor ON/OFF control output.
3	MDP	O	Spindle motor servo control.
4	MDS	O	Spindle motor servo control.
5	LOCK	O	Samples GFS in 460Hz. Outputs a high signal when GFS is high. Outputs a low signal when GFS is continuously low eight times.
6	TEST	I	TEST pin. Usually, connected to GND.
7	FILO	O	Filter output for master PLL. (slave = digital PLL)
8	FILI	I	Filter input for master PLL.
9	PCO	O	Charge pump output for master PLL.
10	V_{SS}	–	GND.
11	AV_{SS}	–	Analog GND.
12	CLTV	I	VCO control voltage input for master.
13	AV_{DD}	–	Analog power supply. (+5V)
14	RF	I	EFM signal input.
15	BIAS	I	Asymmetry circuit constant current input.
16	ASYI	I	Asymmetry comparate voltage input.
17	ASYO	O	EMF fullswing output. (L = V_{SS}, H = V_{DD})
18	ASYE	I	L : Asymmetry circuit OFF, H : Asymmetry circuit ON
19	WDCK	O	D/A interface. Wordclock f = 2Fs.
20	LRCK	O	D/A interface. LR clock f = Fs.
21	PCMD	O	D/A interface. Serial data. (2'sCOMP, MSB first)
22	BCK	O	D/A interface. Bit clock.
23	GTOP	O	GTOP output.
24	XUGF	O	XUGF output.
25	XPCK	O	XPLCK output.
26	V_{DD}	–	Power supply. (+5V)
27	GFS	O	GFS output.
28	RFCK	O	RFCK output.
29	C2PO	O	C2PO output.
30	XROF	O	XRAOF output.

CXD2057AQ

No.	Pin name	I/O	Function
31	MNT3	O	MNT3 output.
32	MNT1	O	MNT1 output.
33	MNT0	O	MNT0 output.
34	XTAI	I	Crystal oscillation circuit input of 16.9344MHz or 33.8688MHz.
35	XTAO	O	Crystal oscillation circuit output of 16.9344MHz.
36	XTSL	I	Crystal selection input pin. Set low when the crystal pin input is 16.9344MHz. Set high when it is 33.8688MHz.
37	FSTT	O	2/3 frequency-division output at pins 34 and 35.
38	C4M	O	4.2336MHz output.
39	DOUT	O	Digital Out output pin.
40	EMPH	O	Outputs a high signal when the Playback disc has emphasis. Outputs a low signal when it has no emphasis.
41	WFCK	O	WFCK output.
42	Vss	–	GND.
43	SCOR	O	Outputs a high signal when subcode sync S0 or S1 is detected.
44	SBSO	O	W serial input from sub P.
45	EXCK	I	SBSO readout clock input.
46	SQSO	O	SubQ 80bit serial output.
47	SQCK	I	SQSO readout clock input.
48	MUTE	I	H : Mute on, L : Mute off
49	SENS	O	SENS output. Output to CPU.
50	XRST	I	System reset. L : Reset
51	DATA	I	Serial data input from CPU.
52	XLAT	I	Latch input from CPU. Serial data is latched at the falling edge.
53	CLOK	I	Serial data transfer clock input from CPU.
54	SEIN	I	Sense input from SSP.
55	CNIN	I	Track jump count signal input.
56	DATO	O	Serial data output to SSP.
57	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
58	VDD	–	Power supply. (+5V)
59	CLKO	O	Serial data transfer clock output to SSP.
60	SPOA	I	Microcomputer extension interface. (Input A)
61	SPOB	I	Microcomputer extension interface. (Input B)
62	SPOC	I	Microcomputer extension interface. (Input C)
63	SPOD	I	Microcomputer extension interface. (Input D)
64	XLON	O	Microcomputer extension interface. (Output)

■ PD4674A (IC351 : MOTHER PCB ASSY)

• SYSTEM CONTROL μ COM

• Pin Function

No.	Pin name	I/O	Function
1	D5	O	FL driving DIGIT output.
2	D6	O	
3	D7	O	
4	D8	O	
5	D9	O	
6	D10	O	
7	D11	O	
8	V_{DD}	–	+5V
9	CLOK	O	LSI serial clock output. (Judgment port for model selection)
10	MDAT	O	LSI control data serial output. (Judgment port for model selection)
11	SQSO	I	Subcode Q data serial input.
12	SLIN	O	Eject output port. Eject (SLIN : L, SLOUT : H)
13	SLOUT	O	Eject output port. Load (SLIN : H, SLOUT : L)
14	DSRT	O	Selector outout port. Rightward (DSRT : H, DSLT : L)
15	DSLT	O	Selector outout port. Leftward (DSRT : L, DSLT : H)
16	PIS3	I	Disc detection input.
17	RST	I	CPU Reset. (L : Reset)
18	PIS2	I	Disc detection input.
19	PIS1	I	
20	AVss	–	Reference potential for A/D converter : GND
21	LOUT	O	Loading output port. Clamp (LIN : L, LOUT : H)
22	LIN	O	Loading output port. Return (LIN : H, LOUT : L)
23	INSD	I	Slider INSIDE SW input. (L : INSIDE)
24	EJCT	I	Loading out SW. (L : Loading out end)
25	FCOK	I	Focus OK input. (H : OK)
26	LDON	O	Laser diode output. (L : ON, H ; OFF)
27	CLMP	I	Clamp SW. (L : Clamped)
28	RACK2	I	Not used.
29	AV_{DD}	–	Analog power for A/D converter : +5V
30	AVref	–	Reference potential for A/D converter : GND
31	RACK1	I	Not used.
32	XT2	–	Crystal connection for sub-system clock oscillation : Not used
33	Vss	–	GND
34	X1	–	Crystal connection for main-system clock oscillation : 4.19MHz
35	X2	–	
36	GFS	I	Frame sync lock input. (H : OK)
37	LEDR	O	LED lighting output. (RED) (H : Lights)
38	LEDG	O	LED lighting output. (GREEN) (H : Lights)
39	DCNT	I	Disc count pulse input.
40	XLAT	O	LSI control data lutch pulse.

PD4647A

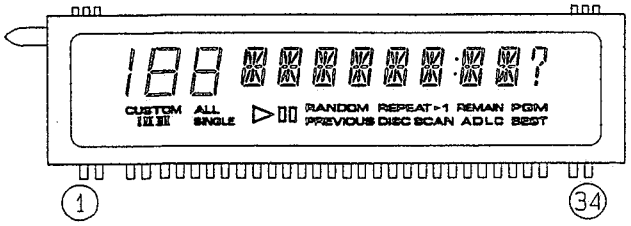
No.	Pin name	I/O	Function
41	XRST	O	Reset input for each LSI
42	SENS	I	LSI operating state multi-mode input.
43	DLAT	O	DAC control data lutch pulse. Judgment port for model selection.
44	SYC3	O	Synchronizing output.
45	STTR	I	STOP mode request input (L : Request, H : Canceled)
46	SCOR	I	Subcode sync S0 + S1 input.
47	RMDT	I	Remote control data input.
48	GND	–	GND
49	SYC1	I	Synchronizing input.
50	HOOD1	I	Hood1 closed SW (L : Closed)
51	HOOD2	I	Hood2 closed SW (L : Closed, Only 50 racks)
52	V_{DD}	–	+5V
53	MUTE	O	Muting output. (L : Mute)
54	STBL	O	Standby LED lighting output. (H : Lights), OSCE output.
55	+1LED	O	LED lighting output. (H : Lights)
56	HOME	I	Disc selector home SW. (L : Home)
57	KD3	I	Key data input.
58	KD2	I	
59	KD1	I	
60	KD0/TEST	I	Key data input/TEST mode request input. (H : TEST, L : Normal mode)
61	+1ILM	O	Ilumination LED lighting output.
62	SEG R	O	FL driving segment output.
63	SEG P	O	
64	SEG N	O	
65	SEG M	O	
66	SEG K	O	
67	SEG J	O	
68	SEG H	O	
69	SEG G	O	
70	SEG F	O	
71	VLOAD	–	-26V
72	SEG E	O	FL driving segment output.
73	SEG D	O	
74	SEG C	O	
75	SEG B	O	
76	SEG A	O	
77	D1	O	FL driving DIGIT output.
78	D2	O	
79	D3	O	
80	D4	O	

9. FL INFORMATION

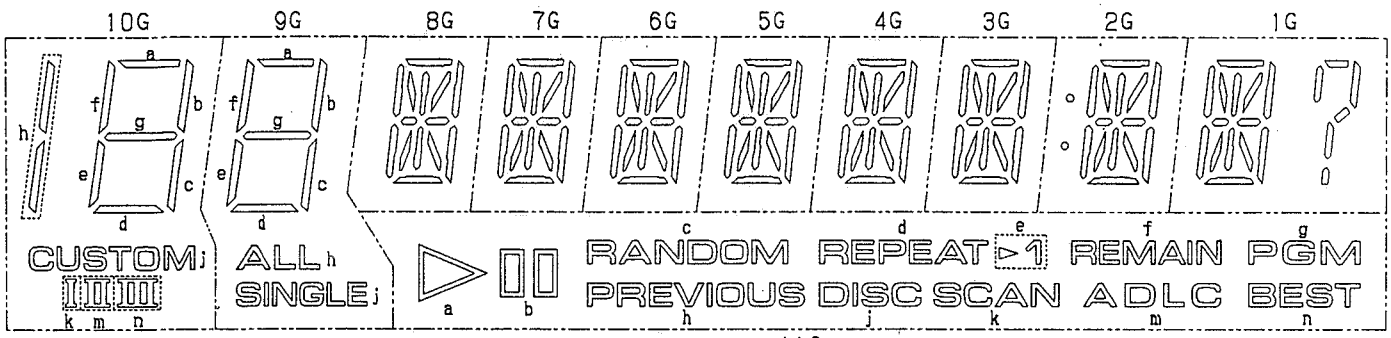
■ PEL1089 (V701 : FUNCTION PCB ASSY)

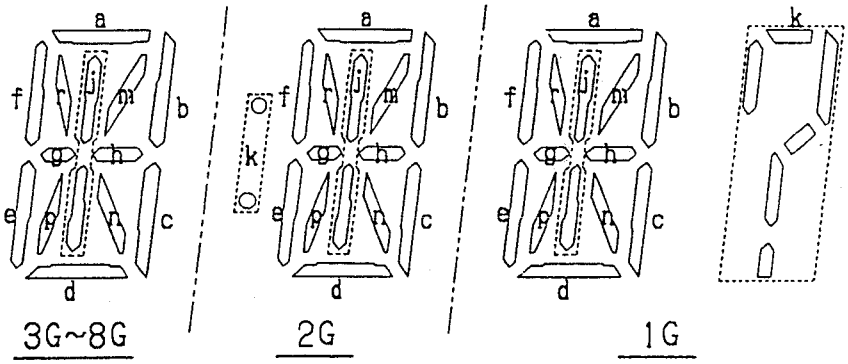
● FL TUBE

PIN LOCATION



ANODE GRID ASSIGNMENT





PIN ASSIGNMENT

PIN ASSIGNMENT

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assignment	F	F	NP	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NL	NL	NL	p	r	a

Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Assignment	b	c	d	e	f	g	h	j	k	m	n	NP	F	F

F:Filament 1G~11G:Grid a~h, j, k, m, n, p, r:Anode NP:No Pin NL:No Lead

10. DISASSEMBLY

■ REMOVING THE FRONT PANEL

① Remove the bonnet.
② - ④ Remove the screws and parts.

Note:
Remove the screw in step ④ with the hood opened.

⑤ Remove the wire.

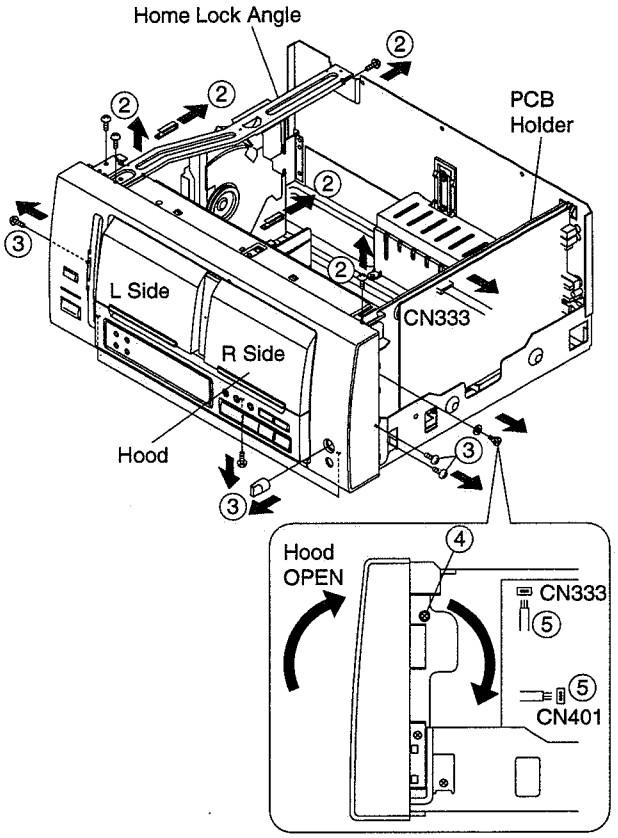
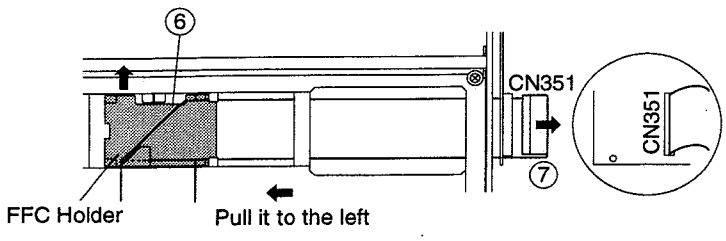


Fig. 1

⑥ - ⑧ Remove each part and wire.



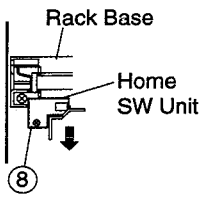


Fig. 2

⑨ Shift the front panel slightly toward you while paying attention to the right and left hooks on the chassis.

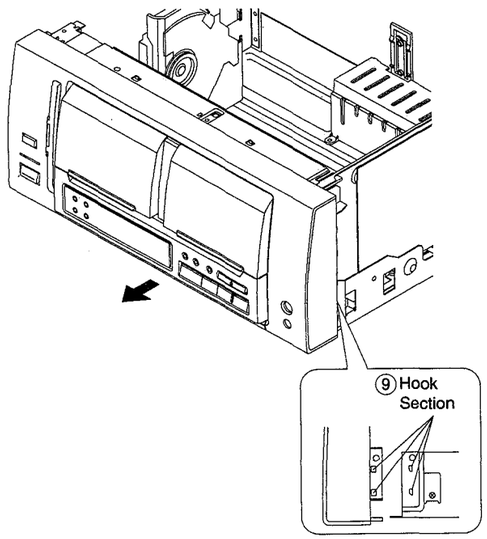
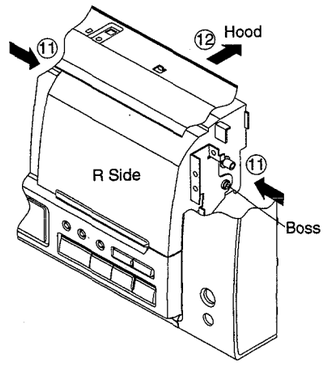


Fig. 3

⑩ Remove each part.

Fig.4

⑪ Remove the hood while pushing the right and left bosses of the hood slightly to the inside until they are removed.



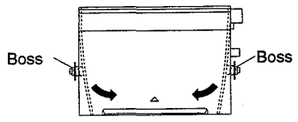


Fig. 5

⑫ - ⑭ Remove each screw and part.
⑮ Remove the fornt panel.

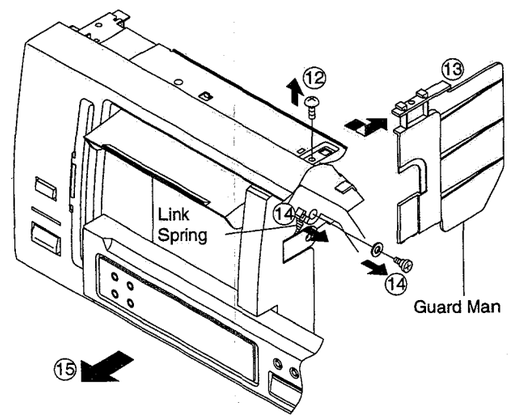
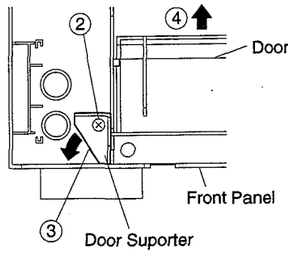


Fig. 6

■ REMOVE THE DOOR PANEL

① Remove the front panel. (Refer to "Removing the front panel")
② - ③ Remove the screws and parts.
④ Remove the door panel.
⑤ Remove the screw, then remove the door stay.



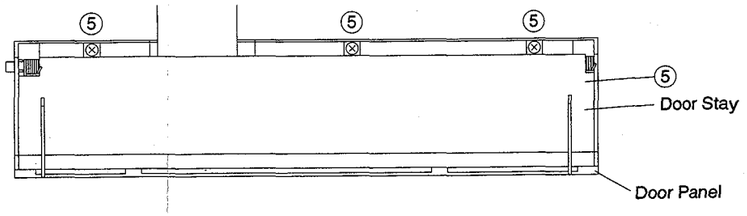
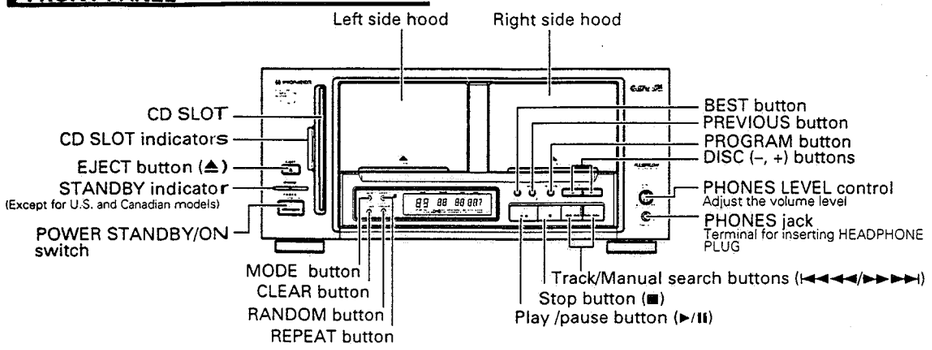


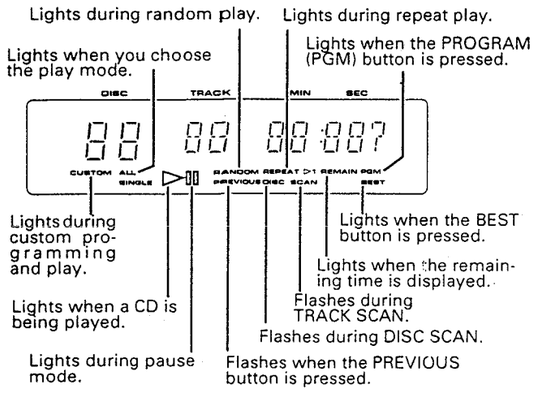
Fig. 7

11. PANEL FACILITIES

FRONT PANEL



DISPLAY



12. SPECIFICATIONS

1. General

Type ..... Compact disc digital audio system
Power requirements
- U.S. and Canadian models ..... AC 120V, 60 Hz
- European model ..... AC 220 - 240V, 50/60 Hz
- Australian and U.K. models ..... AC 240V, 50/60 Hz

Power consumption
- U.S. and Canadian models 13W
- European model 14W
- Australian and U.K. models 14W

Operating temperature ..... +5°C - +35°C (+41°F - +95°F)
Weight (without package) ..... 6.0 kg (13 lb 4 oz.)
External dimensions ..... 420(W) X 358(D) X 190(H) mm 16-9/16(W) X 14-1/8(D) X 7-1/2(H) in.

2. Audio section

Frequency response ..... 2 Hz - 20 Hz
S/N ratio ..... 98 dB or more (EIAJ)
Dynamic range ..... 96 dB or more (EIAJ)
Channel separation ..... 96 dB or more (EIAJ)
Harmonic distortion ..... 0.003 % or less (EIAJ)
Level difference between channels ..... 1.0 dB or less (EIAJ)
Output voltage ..... 2 ± 0.3 Vrms (EIAJ)
Wow and flutter ..... less than ±0.001 % (W.PEAK) (below measurable level) (EIAJ)
Channels ..... 2-channel (stereo)

3. Output terminal

Audio line output
Control input/output jacks (Except for U.K. and European models)
CD-DECK SYNCHRO jack
Optical digital output jack

4. Accessories

- Remote control unit 1
- Size AA/R6P dry cell batteries 2
- Output cable 1
- Control cable (Except for U.K. and European models) 1
- CD liner notes file (Except for U.S. and Canadian models) 1
- Index label sheet (Except for U.S. and Canadian models) 1
- Operating instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.